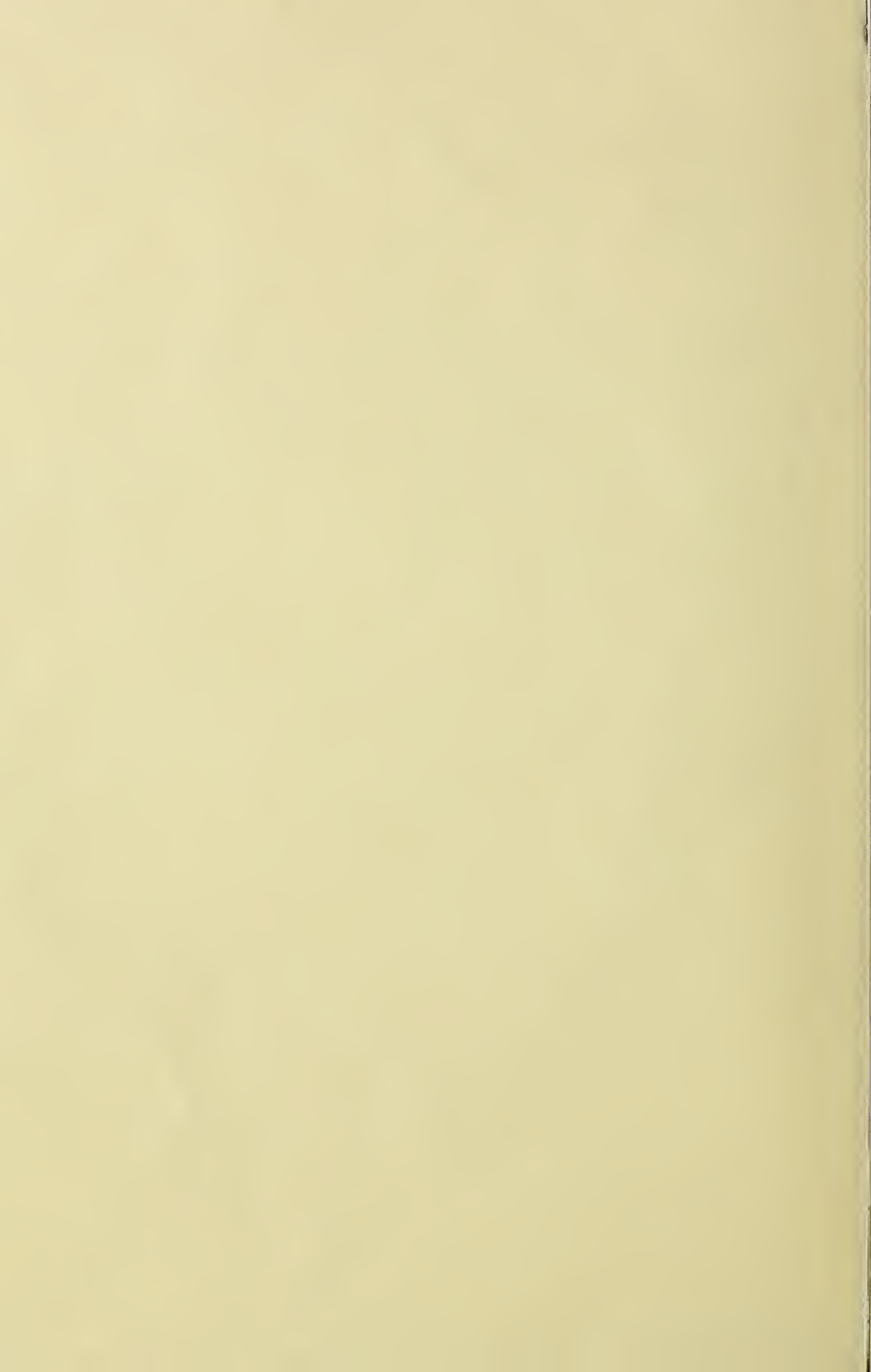


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# THE MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

Vol. XVIII.

BALTIMORE, JUNE, 1881.

No. 6.

For the Maryland Farmer.

## Sorghum and Corn as Sugar Producing Plants.

BY AUGUSTINE J. SMITH,  
Baltimore, Md.

When I consented to contribute the article on "*Cane Culture*," published in the March number of the Maryland Farmer, I did not suppose so modest a production would receive more consideration than ordinary perusal, much less did I expect it to involve controversy with the advocates of corn and sorghum as sugar producing plants. Upon reading, among others, the courteous allusion to it in your April number, by a Howard County correspondent, Mr. Dawson Lawrence, I was led to review my statement in question, and I think, justly construed, it is moderate and conservative in tone.

The article was penned at your suggestion, simply to answer the numerous inquiries from persons contemplating engaging in it, as to the mode and profit of Sugar Cane Culture in Louisiana.

I endeavor to write nothing inconsiderately, but perhaps it might have been better in this case, to have been fuller and more explicit upon a subject, which had elicited such wide-spread interest, instead of confining myself to a mere incidental allusion, and the expression of a general opinion.

I am quoted as saying—"And while the sorghum plant may answer the purpose of supplying the farmer with molasses, and perhaps with sugar of a low grade, sufficient for his own use, from labor snatched from ordinary farm work, yet the product will be inferior to that of the sugar cane, and under no circumstances would be a competitor, nor be made profitable as an independent enterprise."

It would have been well, perhaps, to have quoted, also, what I said about the Indian corn,

for it was really the claim which Mr. Le Duc set up for this plant, which caused me to notice his project at all. With reference to this plant I intended to be, and certainly was explicit, and even emphatic. And yet, it will be observed that, with reference to both this and sorghum, my opinion was based upon experiments already made, and demanded further proof. Apart from the fact that the experiments were too inaccurately made to be satisfactory or conclusive, my opinion was based upon knowledge of the difficulty in utilizing *profitably* the sugar cane plant, grown under the most propitious surroundings, and which is admitted to be superior in saccharine or *sugar qualities* to the corn or sorghum. It is apparent to my mind that Indian corn will not be grown merely for saccharine, as the sorghum can be made more profitable for this purpose. And if it be claimed that it possesses the combined advantage of reaping the ear, as well as producing the sugar, the answer is, that the amount of saccharine requisite to develop and mature the grain will more than out weigh this advantage. I reiterate here what I said about the corn-stalks.

With reference to sorghum, I wish to define my opinion to this extent. It would be unwise, and perhaps foolish in me to affirm, in this age of wonderful inventions and achievements, that sorghum, which is a kinsman of the sugar cane, would not in time, produce, to a useful degree, results due to that consanguinity. What the crossing of species, added to cultivation and thorough acclimation and adaptability to soil and climate will accomplish is in the future. I am speaking of present facts and experiments.

It must be borne in mind, too, that my criticism is as to the *profitable sugar producing*, not the molasses producing capacity of the corn and sorghum plant, for it is the *sugar* feature which Mr. Le Duc claims is to save as much to the United States as its gold and silver mines produce.

Another important fact I will mention in this

connection, which is that, in instituting the comparison between the product of the sugar cane and the sorghum, I presumed that the farmers would, as the experiments made indicated, manufacture the sorghum by open pan process. I am satisfied the sugar result by this process, will be, in a large degree, unsatisfactory, and whether the farmer will find it to his interest to grow sorghum for the "*central factory*," will depend upon whether these factories, with their improved mechanical and chemical contrivances, will be able to extract sugar sufficient to make it profitable, which I doubt.

I regard Mr. Le Duc as an extraordinary man, and a useful public officer, and hope he will be able to demonstrate practically all that he claims for corn and sorghum. But while his amazing energy displayed in working out the sugar problem is to be applauded, yet, from the crude data published by him, I am unable to perceive how he obtains a foundation for his positive and overwhelming conclusions, for I do not consider that accomplished, which has not emerged from the clutches of *thorough, practical and successful experiment*.

Mr. Le Duc will scarcely be bold enough to assert that experiments made in his laboratory will suffice to determine the question of sugar production, nor would he be willing to assume that the imperfect, and certainly not very satisfactory nor successful experiments made under his own supervision, by his expert, Mr. Kolischer, upon a large and a "*practically working*" scale, is sufficient to solve the problem of profitable sugar development for this country in all its broad and economic aspects. So far as I can see, Mr. Le Duc bases his conclusions mainly upon these experiments and the reports of farmers, which he has published from various States and Territories. But I have been unable to see that these reports show any but a very inconsiderable amount of sugar made, and this of inferior quality, and therefore no satisfactory opinion can be derived from this source. I grant that I have been amazed at the molasses or syrup production reported in a number of instances, but I am discussing the *sugar*, not the molasses question. The fact that sorghum will produce, readily and freely, molasses of even marketable quality, has been known for too many years to be doubted by any sane person at this time, but its profitableness has yet to be demonstrated.

Notwithstanding the fact that *sugar* is considered the profitable factor by all saccharine growers, yet, the sorghum planters seem to have ignored this test, at least to such an extent as to leave the question of sugar production from this source, unsatisfactorily in the dark.

A striking feature in these published experiments is, the difference in experience, and divergence of opinion. The results produced by some, exceed the most extraordinary yield of the most highly favored cane sugar cultivation, (which seems to me absurd,) while with others, the product is singularly insignificant. The only comment I propose to make on this, is, that it shows a want of accuracy in experiment. Farmers differ all the way from \$15 to \$90 per acre, as to the cost of cultivation, and they are not, by any means, agreed as to the profit of cultivating sor-

ghum as an article of commerce. It would make this article tedious to make as many quotations as I would like, and I will content myself with several of the most striking: C. H. Chadbourne, of Princeton, Minnesota, reports a yield of "140 gallons down to nothing per acre, but thinks it safe to calculate an average production of 100 gallons per acre, with proper cultivation. He says, however, that it costs as much to raise and deliver to the mill, one acre of sorghum, as 10 acres of corn, of 25 bushels per acre, and that the corn is worth double the sorghum; yet, he says it will pay to raise for home use." Mark the fact, he does not mention having made any sugar.

Alford Lamb, Onondago county, New York, says: "I have made 300 gallons of beautiful syrup from one-half acre of ground, but I have failed to granulate it, and am anxious to make sugar."

S. T. Raddick, Malone, New York, says, "the yield of syrup suits us, but the results of our manufacturing is not altogether satisfactory."

R. J. Flint, Granville, Vermont, says, "he raised a good crop, planting in good soil, with use of fertilizers, and that he cut and fed to his stock, and does not think it will pay either for syrup or sugar in his country."

I regard the report of Drummond Bros., of Warrensboro, Mo., as perhaps the most satisfactory of all the reports, because it is stamped with intelligence and experience. They say, "we have been in this business for the last eight years, and for the last three years, raised nine acres of cane, each year, yielding 80 gallons per acre, which sold for 45 cents per gallon. We have not made sugar, because we could not supply the home demand for syrup." If it is so profitable, is it not strange that they have not increased their acreage to supply the great demand which they have not been able to meet? And is it not stranger still, that they have not made sugar, which should pay so much more? The truth is, these crops do not really pay them, and in this fact is the answer.

The following is the most extraordinary report of all. D. B. Cable, of Mount Union, Iowa, says: "we made over 2000 gallons in 20 days, working ten hours a day, at an expense of \$5.00 per day, including fuel. I think the future of this industry is bright—we need more light." This man claims to make his syrup for five cents per gallon, while scores of others say they find it profitable to pay from 20 to 30 cents per gallon, to have it made. He ought to become, on his own showing, in a very short time a "Bonanza King," and yet, even he wants more light. It seems to me he should rather impart than need light.

That I may not be accused of a partial and unfair statement, I will say, that many of the reports speak most favorably of the yield of syrup, which, if realized generally, would seem to indicate, at least, a qualified success in this direction. But there is no report as to sugar production, which should engender more than a hope that this feature might prove a reality. Not the least striking fact presented, is the laborious analysis of the various kinds of sorghum and corn stalks, made by the chemist of the Agricultural department. I recognize all these facts in making up my opinion.

Though not strictly homogeneous, yet, it may



not be out of place, at this point to allude to the experience of farmers as to frosted cane, which was, in some instances, perplexing. Cane that had matured tolerably well, would rather be benefited than injured by a moderate frost, as the tendency would be to ripen it and develop favorably the saccharine element, and especially would this be the case, provided the weather was cool and cloudy. I have even known sugar cane, after a hard freeze to be uninjured while standing in the field, so long as the weather continued cloudy and moist and the sun remained obscured. But in either case, after severe frost or freeze, if clear weather and hot sun followed, decomposition supervened and granulation ceased. I have known crops, however, to be saved during a freeze, by being cut and laid in windrows—the covering thus protecting the cane from the sun and preserving its integrity. I have observed the same freezing temperature which would destroy standing crops, when the weather was clear fail to injure those in close proximity, when the weather was moist and cloudy. Every gardener and florist knows how the effects of a freeze upon plants are counteracted by a rain falling or water sprinkled upon them before the sun appears. I have no doubt that water sprinkled copiously upon sorghum after a freeze, or complete shading and protection from the sun would save the crop. It is the influence of the sun, after a severe frost and freeze that does the harm.

In this connection I will add a suggestion to account for the failure of experiments thus far made to obtain more, or even as much sugar from the cane which had been cut up or sliced previous to expressing the juice than in the ordinary way. My opinion is that the sooner the cane is ground after being cut, the more granulation you get; because a chemical change begins in its saccharine structure the moment it is severed from the root, just as death in the animal body is the beginning of decomposition. The same result is witnessed in all vegetation the moment vitality ceases. This being the case, the more the cane is handled after being cut, the more it deteriorates; and this deterioration is increased to a greater extent as the saccharine structure or cells are exposed to the air, which it is apparent must be done in the process of slicing or chopping up the cane stalks. This chemical change is destruction of granulation or sugar production, and if not arrested by prompt manufacture of the juice, will not only decrease the sugar result, but also the quantity and quality of the molasses, producing only an inferior syrup, not many degrees removed from vinegar.

Let it be distinctly remembered that we are discussing the *profitableness*, not the feasibility of extracting sugar from sorghum and corn stalks. It is common knowledge that saccharine exists in very many vegetable substances; but likewise common experience, that it cannot be extracted with profit in the form of sugar or in any other shape, except from few plants or roots, and from these only with intelligently directed industry and skill.

But I must come to a halt. I did not mean to be led into so lengthy a statement. But I do not wish to be considered as not sympathizing with Mr. Le Duc in his laudable effort to do his

country a service. Under any circumstances, his efforts are to be commended and honored. I merely mean to suggest that the determination of this question of producing, profitably, sugar from the sorghum and corn stalk, or from anything in this country but the sugar cane plant, is perhaps invested with greater difficulties than appear upon the surface. But, if Mr. Le Duc succeeds in developing the production of a wholesome molasses for *general use he has done wonders*, and if to this be added the production of sugar as claimed by him, he will have accomplished an achievement which should entitle him to a prominent place in the Pantheon of public benefactors.

One thing, though, is important, farmers everywhere should co-operate with Mr. Le Duc in making such experiments as will bring this question to an early and satisfactory solution. There is one important fact which may add an element of profit to the culture of sorghum and secure its successful cultivation, and that is the utilizing the bagasse for making paper. Until recently all efforts in this direction have failed, but I have good reason to hope that the difficulties have, at last, been overcome, and a process for making paper out of this material, cheaply, discovered. A large planter in Louisiana, who has been experimenting carefully for some time past, writes me that he is now putting up machinery for this purpose.

In conclusion, I think the sequel will prove that my quoted statements from the March number of *Maryland Farmer* is not over wrought, and that perhaps the use and profit of sorghum will consist chiefly in the molasses or syrup produced, which although inferior, perhaps, to the sugar cane results, will yet be useful; but that the profit, if any at all, of this sorghum as a commercial product, will be much reduced when everybody engages in its manufacture, and that at last, it will perhaps be found that the cultivation of sorghum will be "restricted to home use and from labor snatched from the ordinary farm work, and corn stalks cannot be utilized profitably at all for saccharine purposes."

### Farm Work for June.

June is always a busy and trying month to the farmer, and particularly so to the tobacco planter. The tobacco crop is, or should be planted this month, the growing crops must be worked and kept clean, and both hay and grain harvest comes on, so that, any way, it demands all the energy and management at the command of either, but the planter has double labor on his hands, and if the weather is favorable to the "weed," it is unpropitious, sometimes ruinous to the harvest and other crops. Therefore it is always safest to be prepared for the worst. This is measurably done by having the corn and root crops clean and well worked before harvest begins, and have the land ready for tobacco planting,

if the plant beds indicate that the plants will be ready to set out, when a good "season" comes. And before the clover is fit to cut, or the grain heads, let every preparation be made, implements all put in order, and a large force of hands engaged, so that the crop of grain can be secured in a day or so. This is true economy and often has saved much loss. If it takes five men to secure a wheat crop, two days; ten will do it in a day and at same cost, and one day often makes a wonderful difference in the actual value of the crop.

#### GRAIN CROPS.

Rye is usually ripe ten days before wheat. Both should be cut in the dough state. Here, we would call attention to what Col. Curtis says, elsewhere, in this number of the Maryland Farmer, about experimenting in cutting wheat. He has given to the growing and culture of this crop, much thought and careful study, and has published a valuable treatise on the subject, which should be read by every wheat grower. We, therefore, hope his suggestion of an experiment will be heeded by many, and would be glad if the experimenters would give to us the results for publication to benefit our readers.

We again urge the importance of securing the wheat at the earliest moment, by stacking or putting it in the barn, and thereby saving much loss by its being exposed in small shocks, in the field, to the ruinous effects of rain, storms, and depredations of birds and animals. Some seasons, immense loss happens to the grain crop, from this bad management of the farmers. It is better policy to thresh it a few days after it is shocked, which saves much labor in hauling, stacking or putting in the barn, and then the grain is safe in the granary, to await a rise in the market, or to be sold just when it suits the owner. No matter when it is threshed, let it be the duty of the farmer to secure the straw in large ricks, put up with as much care as is bestowed on clover hay. Bright, clean straw is good feed and valuable. Rye straw, in bundles, is worth usually as much per ton as clover, or rough hay. The run to a well built straw rick, is all the long food that young cattle or sheep want in the Middle States, in winter. Indeed, it will afford shelter as well as food.

#### CLOVER FOR HAY.

Clover, for hay, should be cut just before

a majority of the blossoms turn brownish. What is cut in the forenoon should be put in 100 lb. cocks in the afternoon. Do not begin to cut it until the dew is off. After standing two or more days in the cocks, they should be opened and exposed for some hours to the air and sun, and then hauled to the hay mow, or ricked neatly and well covered on top with straw. If possible, it should not have a drop of rain on it from the time it is cut until it is secure in rick or mow.

#### CORN, BROADCAST OR DRILLED.

Select a few acres of good land and manure it well, then sow, broadcast, three bushels of tall growing corn, sweet corn is best, and harrow it in. Or drill in corn, so as to have the grains about an inch or so apart, and the drills  $2\frac{1}{2}$  to 3 feet apart. Cultivate it well until the corn is three feet high. This will give you a fine, green food to help out your pastures when they fail, or if it be cut and cured, after it has tassel, will give you a great amount of valuable fodder to supply any deficiency in the hay product, or, you can sell your hay and feed your stock on this corn fodder, which, if nicely cured, will be worth to you as much as like quantity of timothy hay. It will usually yield from 25 to 40 tons, per acre, green, and when cured will have lost not over three-fifths, which would be 10 to 16 tons of dried fodder per acre.

#### MILLET.

Every person who may be likely to want hay during the coming winter, should sow a few acres in millet or Hungarian grass—the latter we prefer.

#### CORN.

If you followed our directions about this crop, given in our March and April numbers—deeply plowed land, highly manured and thoroughly prepared before planted, with good seed of good prolific variety—and you will cultivate it well every 6 or ten days, you need not fear of a poor crop.

#### PUMPKINS.

Be sure and plant pumpkin seed among your corn, when you thin it. Plant every fifth or sixth row of corn, with one pumpkin seed, about twenty feet apart, in the row. If the land is rich, plant much closer.

#### ARMY OR NAVY BEANS.

They may be planted now in the hills of the corn, four or five beans in the hill upon



the south side of the corn; this exposes the growing beans to the sun, increase the quality and growth of the crop, and with very little extra labor largely increase the profits of the field.

#### SHEEP SHEARING.

Early this month, sheep should be sheared, if they have not already had their warm suits removed. After being shorn they should be housed, when storms or a long spell of rain comes on, during, at least, this month. A few days after the shearing, the lambs should be dipped in the sheep dip, made of hot water and tobacco, with a little flour of sulphur. The dip should not be too strong with the ambier. The old sheep might be dipped if they have ticks, or their skins look scaly or eruptive. After shearing, tar the nose of every sheep, and put a mark on all intended for the butcher. Never, as a rule, keep a ewe over seven years old, and kill off all ill formed ewes, or such as have proved unprofitable. Never breed from the same ram, over two years. Always try to get each ram better than the one last bred from. Turn out for breeding, only the best ewe lambs.

#### TOBACCO.

Plant no more tobacco than you have rich, highly manured and well prepared land on which to grow it, and be sure that you have the means and force to keep well cultivated, clean of worms and suckers, and house room to cure it to the best advantages. Remember, it is only those planters, now-a-days, that plant a few acres in this crop, who reap a full reward for their labor, and time and expense, while those, who follow the old system of going in for quantity, regardless of quality, make nothing. Under the new system, tobacco is a bonanza to the poor man, with a large family of working boys and girls.

Every man who grows tobacco should raise a large number of ducks and turkeys, which are great substitutes for manual labor. These two small industries, united with the tobacco, will bring in a handsome return for the cost and labor expended. One hundred turkeys and two hundred ducks will effectually, by the help of a woman and two or three small children to drive and care for this lot of poultry, keep clear of worms 50,000 tobacco plants, on nine or ten acres. Before Christmas, these

100 turkeys and 200 ducks, made fat, will bring \$175, while their food will not have cost over \$75, leaving a profit of \$100 for the ten acres, besides the additional value of the tobacco, gained by their use, of not less than another \$100. Thus, by raising this amount of poultry, you increase the product per acre, \$20. Now, think of this, and you can do it if you only try.

#### Garden Work for June.

June is a very interesting month to the gardener. Early vegetables and fruits are being perfected for use, and seeds and plants are to be sown and set out, and there is a constant appeal to the care, attention and industry of the workman, and to the forethought of the manager in arranging for a prompt succession of crops without loss of ground, so that each bed shall produce at least three crops per year. A judicious gardener will have often two crops growing on the same piece of ground at the same time without doing any injury one to the other: such as radishes and beets, lettuce and tomatoes, horse-radish and early cabbage, &c.

*Peas.*—Sow every ten days during the month a few rows of this delightful vegetable—Champion of England is a universal favorite, but requires tall brush or a double trellis made of stakes driven deep in the ground to prevent swaying, and each row of stakes having small wire or stout twine, fastened to each stake by being wrapt around nails driven in the stakes at 8 inches apart, beginning a foot from the ground and continued as high as the peas grow.

*Lima and Pole Beans.*—If not planted before, plant now.

*Snap Beans.*—Plant a few rows every ten days for a succession. The "Black-wax" is a very desirable sort—it is stringless, rich, marrowy. Boil well, then cut them in very small pieces; add pepper, salt, butter and half a pint of rich milk, put in a sauce-pan and stew until the milk is nearly all absorbed, and it will be found delicious.

*Watermelons and Canteloupes.*—Keep these well worked and free from the fly. Soot, ashes and plaster sprinkled often when the dew is on will prevent to much extent the destruction of the fly. Our experience with canteloupes confirms the

statement we see often made, that tomato plants will effectually keep off the fly. Set one plant in the hill near the vines and one between each hill—the hills being four feet apart. When the vines begin to run over the hill, they are out of danger from the fly or bugs; then pull up the tomato plant that is in the hill, as it may interfere with the vines, but let those stand that are between the hills, and after the canteloupes are gone the patch will be covered with a fine crop of tomatoes.

*Beets.*—Work these often and thin them so as to stand four inches apart in the rows. Those pulled out can be used for transplanting, or be cooked, bottoms and tops together, making very nice greens, much liked by many persons.

*Cauliflower and Brocoli.*—Should be sown now for fall crops.

*Cabbage Seed.*—Sow, after the 15th of the month, Flat Dutch, American Drum-head Savoy for winter use, and Red Cabbage for pickling and slaw.

*Small Salading.*—Sow seeds of lettuce, cress, endive, &c., at intervals.

*Squash.*—Plant seeds of Crook-neck for early fall; Hubbard and Turk's Cap for winter use.

*Corn.*—Plant some corn of Mammoth sweet to have a continuous supply of roasting ears.

*Asparagus* is now in plentiful supply, and we mention it only that some one may try the old Austrian plan which gave to Austria the credit of growing the finest asparagus in the world. To give as much length and tenderness as possible, there is inserted over each stem destined to be gathered, as soon as it shoots above ground, a wooden tube or pipe eighteen inches high and one inch in diameter.

*Onions.*—Examine the crop and whenever the onions are shooting for seed, pick out the heart-buds. Remove all weeds from amongst them, and then lay down the crop, which is done by bending the stems down flat, just above the bulb. This operation may be done by the hand, but time is saved by two persons each holding one of the ends of a pole in such a manner as to strike the stems an inch or two above the bulbs. This is called "laying over," and is of great benefit to all crops of onions, as the growth of the stems are thereby much checked and the whole nourishment

thrown into the bulb. This is an old practice with onion growers in family gardens, and has never failed to give satisfactory results.

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For the Maryland Farmer.

### The Tenant System vs. Ownership of Land, etc.

The new Land Bill of Mr. Gladstone is just now an absorbing question in European and American agriculture. Its provisions claim fair rents, free sale and fixity of tenure. It is announced that a member of the cabinet has resigned, because he cannot endorse this bill, which seems to give neither landlord nor tenant any claim against the decision of a commission. It has long been the cherished hope of the Irish tenants to enjoy the privileges of the peasant proprietors of Switzerland, Belgium and other European governments, and it is not likely that there will be perfect peace until the laws of entail are abrogated, thus giving tenants the right to purchase homesteads. England's persistent determination to hold her landed estates, acquired in Ireland by the rather doubtful claim of confiscation, like her weaker claim to the exclusive title of our large domains, once hers, by the right of discovery, has fostered a hereditary aristocracy in the hands of a privileged class, who look with unconcern upon the proposition of the political economist, that the owner of the soil should be the laborer who tills it. Thus two contending interests have long been agitating agricultural success across the ocean. As heirs to English customs, it is but natural that we should champion the claim of our mother to the perpetuation of large estates; to take pride in our Dalrymple wheat farm of 23,000 acres, which yields \$450,000 per year, and our extended sugar plantation of 3287 acres, which yields as much as \$550,000. Whilst we have untold territories of virgin fertility from which to choose, the questions that now agitate Europe are still of interest to us in showing the progress of civilization, and the laws of supply and demand.

At the head of one of these contending parties stand many political economists, with the peasant masses of Belgium, Switzerland, France and Italy, who delight in



their little farms, many not more than five to six acres, yet, cultivated with such unceasing labor, as to give them a living, and local habitation.

Opposed to them and their system, England stands alone with her entailed estates, still insisting upon her exacting leases, yet tied down by her laws of entail, and powerless, except by Act of Parliament, to accede to long continued demands for a modification. Notwithstanding European civilization has been marked by a direct advancement of individual interests, and thereby an indirect development of society, the greatest progress towards an equalization of individual interests has been made in the last fifty years. Within this time the fact has been established, that society is made for the individual, and not the individual for society. Whilst Europe was crowded by ever increasing masses of peasantry, there was no room for expansion, and personal slavery was a necessity. As soon as these broad, fertile domains of ours were offered as permanent homes to the oppressed, individual interests here elevated had a stimulating influence over European laborers.

Our universal education, grafted upon the popular principle that governments are for the people, has kept alive the popular agitations that now threaten Russia, England and Ireland. Men are beginning to know that "human societies are born, live and die upon the earth; there they accomplish their destinies, but they contain not the whole man. After his engagement to society, there still remains in him the more noble part of his nature, those high faculties by which he elevates himself to God, to a future life, and to the unknown blessings of an invisible world. As individuals, each with a separate and distinct existence, endowed with immortality, there is a higher destiny than that of States." It is this heaven which has sprung from the "New Profession,"—the unwearying and unwearyed work of the teacher, independent of, or, it may be, assisted by, the narrow limits of the church, that is now elevating the masses both here and there. It links us together; it brings the governed and the governors to a full realization of the responsibility of their powers. Independent, republican America, with her millions of liberated slaves, still cherishing the name of Abraham Lincoln as their great emancipator, slain in their cause, sends her sympathy and condolence to

monarchical Russia, for the loss of the great liberator, Alexander II, who also fell by the assassin. In both countries, integral parts of their population are just beginning the problem of self government.

Universal freedom and universal education are both demanded, and the sooner they reach the absolute realization of a representative government, the sooner will crowned heads drive from their territories those direful organizations which only a vitiated public opinion render for a moment possible.

The political economist contends that the right of acquiring a permanent home, is the surest way of elevating the masses. Thus, we enter upon the comparative advantage or disadvantage of small properties, a question which is now, and has so long been disturbing agricultural interests in Europe.

The most exacting of all tenures that have ever been in vogue, was, until very lately, the universal one of Ireland. It is the Cottier system, and consists in holding lands by competition, instead of by fixed rates. The whole rural population, ever upon the increase, thus enter into competition. Where lands are limited and competition unlimited, rents may soon be forced above living prices.

The successful competitors having secured farms for £450, that ought to rent for £50, and having no capital to procure labor, are forced to sub-let, until bad management, exhausted lands and overcrowded population bring on starvation, disease, or emigration. So exhaustive was this system, that eight millions of Irish peasantry, reduced to absolute poverty, were without the means of emigration. When the Wakefield system of self-sustaining emigration was adopted, Ireland was relieved of two millions, who came between the years 1841 and 1861, to enrich our country. Under the Tenant Right League, an attempt was afterwards made to grant absolute title to all improvers of waste mountain lands. Though this society was forced by the famine which occurred at that time, to wind up its affairs, about a thousand acres were thus reclaimed in a manner so acceptable, it gives abundant proof that the Irish laborers with proper opportunities, may become skilled husbandmen.

Since then, the Encumbered Estate Act

has introduced a better system of fixed rates and extended tenures.

The national system of France, though detested by English landlords and writers, is an improvement upon the Cottier system of tenancy. It is the Metayer, by which the lands are let for *one half* the crop, the landlord furnishing the stock. This is often adopted in this country and, varies from a half to one-third, as locations and land may direct. Adam Smith, in summing up its disadvantages, contends that though it may be to the interest of the Metayer to produce all that the stock of the landlord may make the land yield, there will never be any improvement, since it will only increase the landlord's half interest. Arthur Young thinks that nothing can be said in favor of such a system, whilst a thousand arguments may be urged against it. He thinks the "defrauded landlord receives only a contemptible rent; the farmer is in the lowest state of poverty, the land is miserably cultivated, and the nation suffers as miserably as the parties themselves." John Stewart Mill, though, by frequent quotation from able writers, presents a very much better picture of the Metayer system in Italy. In Lombardy there are very few farms exceeding 60 acres, some less than ten acres, yet one-half the proceeds gives a good living. In the Piedmont district, the economy and management of the land are better understood than in any other part of the world.

Under this system, the proprietor always interested, advances enough to establish numerous systems of irrigation and terrace culture on the hills. Sismondi's testimony is the most favorable and accurate, because, unlike Arthur Young, he is a resident proprietor. His statements apply to his own neighborhood in Tuscany where the farms are smallest, and where general thrift prevails. All the evidence from Italy is in favor of small occupations, with permanent tenure.

Whilst this system is not, of course, as desirable as peasant proprietors, upon which I propose to dwell in my next, it is siderably ahead of the Cottier system, which drove Irish farmers to emigration. The rebellions that have since rendered Mr. Boycott, the landlord, famous, added to the demands of the Irish Land League, render it possible that a revolution in agricultural systems may not be far distant.

In continuation I shall dwell upon the discussion held on the one side by John Stewart Mill, in favor of peasant proprietors, and on the other, by Arthur Young, the great English writer, upon the advantages of England's superior combination of capital and labor.

J. D. WARFIELD.

For the Maryland Farmer.

### The Eastern Portion of Tide-Water Virginia.

*Messrs. Editors.*—A few lines from the eastern portion of Tide Water Virginia may not be uninteresting to the numerous readers of your very valuable journal, seeing that it offers very great inducements to persons who wish to better their condition, by leaving the crowded portion of the more cold climate of the north, or from Europe. Having had some experience and observation, I would begin with the counties of King George, Westmoreland, the birth-place of Washington, Madison, Munroe and the Lees, and Northumberland, all bounding on the broad and beautiful Potomac. These counties are all penetrated by various navigable creeks, where they have steamboats plying daily to Washington and Baltimore. The Potomac has the best transportation facilities, as well as the cheapest, of any of the rivers of the Chesapeake Bay on the Western side, (save, perhaps, the Patapsco, on the head of which, is your beautiful, flourishing city) it abounds in fish and oysters. The lands of these counties, though neglected generally, is very susceptible of a high state of cultivation, which very many farms show; it is very healthy, except where the creeks and marshes exist. The country is well watered generally, with good, never failing streams. There are many sites for mills, with good power. The people are kind, thrifty and intelligent, they have good public schools, good churches and daily mails, in fact, all the facilities that nature and the sparsely settled condition of the country can offer. The war left the people with nothing but the land, which many have not been able to find purchasers for, hence, a scarcity of capital to work it must exist, until they can divide it, which many are anxious to do; to that end, many good farms can be bought so low, that an Ohio, New York



or Pennsylvanian would think it worthless, and yet the net profit from the cultivation, with skillful hands and capital, would pay a far better profit than many of the lands held at high figures in those States, and in many instances, more per acre. Fruit raising, to some extent, has been tried in those counties, and very successful to those who had experience. The land is well adapted to gardening. Much of it well adapted to grass, as evidenced by the fine cattle, sheep and horses. Crossing the country, south, to the Rappahannock, at its mouth is Lancaster, next Richmond, Westmoreland and King George, on the north side; on the south, Middlesex, Essex and Caroline extends to Fredericksburg, all about the same character of people and land. The Rappahannock is not so large as the Potomac, but is said to be more beautiful; here is the home of the fishermen and oystermen. Large quantities of each are taken from the water and shipped to your city and north. Large quantities of oysters are canned on the river for the markets of the world. There are also large quantities of fruit canned, one man from your city is doing a large business in both branches, and has made a great deal of money for himself, after paying out fabulous amounts for labor, fruit and oysters. Here we have a semi-weekly line of fine steamboats to Fredericksburg from your city, which, in the fall season, can't carry the freight offered at the numerous wharves. Besides, we have seen, as on the Potomac, creeks penetrating the country, where there are no steamers, but a large number of vessels find heavy freights of oak and pine lumber. Where I sit now, I am in the sound of the busy whistles of six large saw mills, and many others are in the county. The people, here, like on the north side of the Rappahannock river, are a live, go-ahead people, but are deficient in capital from the same cause. All of these counties, named, offer great inducements to farmers, gardeners and stock raisers, especially sheep, of these the writer has some experience in a small way. Sheep, well attended to, pay more than double their cost, annually, clear profit, besides enriching the land, and the trouble with them is very little, needing only rail pens, with covers for shelter to keep off snow and rain. Two acres of peas will winter 50 head well. I have never known a judicious man who purchased

land in this country and attended to his business, who did not succeed. All the failures I have known were by men, who, seeing land so cheap, bought more than they had money to pay for, and had to go to work with no capital to work with; thus they had to go in debt to live and pay off hands, etc., which would swamp a man in any occupation, in any country. For three years preceding last year, we had a drought and a failure of crops, of course, yet, we are standing up, though some of our feet are a little sore. Our society is generally good, our public schools are good, our church facilities are good, our mails are daily, in fact, all the advantages any country can offer, we have them. Yet, we would gladly extend a welcome to all industrious citizens, who would come among us and help us to fill up the waste places in Tide Water Virginia.

OBSERVER.

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For the Maryland Farmer.

## NITROGEN.

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BY J. B. LAWES, F. R. S., LL. D.

I have lately been engaged in writing a few short articles on fertility and exhaustion of soils, which will, I have no doubt, sooner or later, find their way to the United States, though, whether the views which I have advanced on the above subjects will there meet with a favorable reception, is quite another matter. What, for instance, will your correspondent, Mr. A. P. Sharp say, to a question I have been seriously asking, viz: Whether the total amount of nitrogen which can be carried off in crops, can exceed the actual quantity contained in the soil that grows them? Or, to put the matter in still plainer language—Have the various operations of tillage, the different crops we grow, and the use of lime, phosphate, potash or plaster any further effect, beyond that of liberating, utilizing and making more available the stock of nitrogen already stored up in the soil.

As regards the agriculture of the United States and Great Britain, this question is



one of extreme importance, and, in the interest of the agriculture of my own country, I should be very glad to find that my proposition, as stated above, contained no element of truth. Assuming that the stock of nitrogen in the soil is the main source, of the nitrogen in plants, it is evident that the soil of the United States, with its vast and almost untouched stores, must possess an advantage, as compared with the soil of great Britain, with its comparatively reduced stock, which can hardly be over-estimated. But, if, on the other hand, the employment of mineral manures, and the cultivation of a certain class of plants can replenish the stock of nitrogen in the soil, then the advantage possessed by the United States is very much reduced. Purchased nitrogen is a very costly substance, and I see no reason why crops can not be grown just as cheaply in Great Britain as in the United States, so far as the growth is due to this source; the real difficulty consists in growing crops by purchased nitrogen, as cheaply as they can be grown by means of that which already exists in the soil.


The question relating to the source of the nitrogen in plants is one of extensive complication. We must accept as probable, that all that we find in the soil, originally came from the atmosphere, and that the atmosphere still furnishes a certain amount; on the other hand, cultivation causes great losses of nitrogen, not only by its removal in crops, but also from losses by drainage, this, more especially, where the soil is uncropped. Probably, no more successful process could be devised than that which has been adopted at Rothamsted, for arriving at a correct decision with regard to the balance of these various operations, viz: the removal of nitrogen by the crops, the loss by drainage, and the atmospheric supply. In our experiments we have about ten acres of land, in six different fields, which have re-

ceived no nitrogen in the form of manure, for periods of from 25 to 40 years. Some portions have been kept entirely unmanured, and others have received abundance of mineral manures. In order to measure the reduction of nitrogen in the soil, it is essential that a considerable amount of produce should be carried off for a long series of years. One of the most singular results which have appeared during these experiments, is the extraordinary power of obtaining food from an unmanured soil, possessed by the serial grain crops, wheat, barley and oats. Long after the roots or leguminous plants have ceased to produce anything like a crop, we obtain from an unmanured soil, what in the States would be considered a fair produce of grain.

With those crops which take their food near the surface, we have evidence of a decline in produce, as also of a decline of the nitrogen in the produce, and of the nitrogen in the surface soil. With some of the deep-rooting plants, such as clover and beans, the evidence is not so satisfactory; after the removal of a crop of clover, there is evidence of an increase of the nitrogen in the upper soil, but a diminution of it in the lower layers of soil is not established.

To sample a soil and determine the nitrogen contained in every 9 inches to a depth of 5 feet is a very difficult operation, and the possible error with regard to the amount of nitrogen inseparable to such an operation, might be equal to the amount which would be taken off in several crops. Time alone can therefore solve the problem. I may, however, say that the tendency of all our investigations point to this result, viz: that the stock of nitrogen stored up in the soil is the main source of that which we find in our crops.

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 Try the MARYLAND FARMER for the next six months. It will contain many interesting articles.

## North Carolina Agricultural Experiment Station.

April 2, 1881.

### FIELD EXPERIMENTS.

What does my land need to produce a given crop to the best advantage, is the living, all important question with the intelligent farmer. Different soils have very different wants, varying with their original character, and with the kind of exhaustion to which they have been subjected. It should be the aim of the farmer to supply exactly what is needed, and nothing else. It is only in this way that the highest profits are made. If, for example, the farmer puts phosphoric acid, ammonia and potash in one of the so-called complete manures, at the cost of \$40 per ton, upon his soil, when really only phosphoric acid is needed for his crop upon that soil, and this can be had for \$30 a ton, for his immediate purposes, at least, he is throwing away \$10. It is true that very often our worn lands need all these elements of plant food and the complete manure very generally does well therefore. But it is not, by any means, always true, that it is the thing which will pay the farmer best to use. I very much doubt, for example, whether in the majority of cases, he gets any sufficient return for the 2 to 3 per cent. of ammonia in the nitrogenous matter, to render it worth the five to ten dollars additional he has to pay for it.

The farmer asks, then, how shall I find exactly what it will pay me best to apply to my soil for a particular crop? The laboratory method, which has been proposed gives a very uncertain reply. The comparison of the analysis of the soil and the plant teaches us little, definitely. The analysis of the soil can, of necessity represent only a few ounces of soil, at most. Thousands of tons of soil are within reach of the crop. What probability is there that the few ounces will accurately represent the thousands of tons? There are many other reasons why this method is very unreliable.

✓ The practical test with the crop on the soil, is worth more than all the analyses of soils the chemist can make. > The answer nature makes to the questions put directly to her, in field experiments are far clearer and more reliable than the theories of the chemist. Such experiments every farmer

should conduct for himself. Their results would be his surest guides in fertilizing his land.

I present here a simple scheme for some such experiments, having reference to the elements of plant food most often needed upon an inexpensive scale. The question to which the experimenter seeks the answer is, will it pay me best to use phosphoric acid, ammonia or potash upon my soil with this crop? Will the return be best with any one of these alone, any combination of two of them, or with all three together?

An acre of partially exhausted soil is selected of as uniform character and as level as possible. It is accurately divided into ten parallel strips. The different substances are applied as illustrated by the diagram, three lots being left with no manure, to serve as standards of comparison.

1. Nothing.
2. Phosphoric acid.
3. Ammonia.
4. Potash.
5. Phosphoric acid, Ammonia and Potash.
6. Nothing.
7. Phosphoric Acid and Ammonia.
8. Phosphoric Acid and Potash.
9. Ammonia and Potash.
10. Nothing.

Plot 1 receives nothing. On 2, put 40lbs. dissolved S. C. Phosphate (not containing potash.) On 3, 20lbs. of sulphate of ammonia. On 4, 10 lbs. of muriate of potash. Plot 5 receives all three, viz., 40lbs. dissolved S. C. phosphate, 20lbs. sulphate of ammonia and 10lbs. muriate of potash. Plot 6 has nothing again. Plot 7 gets 40lbs. dissolved phosphate and 20lbs. sulphate of ammonia. Plot 8, 40lbs. phosphate and 10lbs. muriate of potash. Plot 9, 20lbs. sulphate of ammonia and 10lbs. muriate of potash, while 10, gets nothing again. The different plots are to be cultivated in all respects alike. A careful record is to be kept of the appearances of the crops on the different plots, and the produce on each is measured separately. Corn and cotton will be found convenient crops to experiment with; though a large variety of field or garden crops adapt themselves to such experiments.

If the experiments have been carefully conducted, the farmer will see clearly from



the results, which element or elements of plant food were needed for this crop. Of course many more come into the problem in practice, and must be considered in drawing the final conclusions. But the system of experiments presented here in merest outline will be found to be, in any case, very instructive.

The necessary chemicals will cost under \$8.00. I shall be glad to correspond with farmers interested in such experiments, and will supply them with further direction, if desired.

CHAS. W. DABNEY, JR., Director.

**BONEDUST AND WOOD ASHES.**—An Indiana farmer sends to the *Practical Farmer* the following result of experiments with bonedust and wood ashes on wheat:—I applied 600 pounds of dry, unleached ashes to the acre, and sowed wheat on that, and the result was only 6 bushels to the acre. Adjoining this tract I drilled in 200 pounds of bone, and three acres produced 20 bushels to the acre, being an increased yield of 14 bushels over the tract sown with wood ashes. The following year I used 200 pounds of bone dust on the plot which I had previously sown 600 pounds of ashes, and the result was forty bushels of wheat to the acre, being double what the bone produced alone. This experiment satisfied me that ashes alone, or bone alone, would not give me a yield that paid to my satisfaction. The acre with ashes yielded six bushels, the acre with bonedust twenty bushels, but when the two were combined I harvested forty bushels. This showed what experiments and a small expenditure of money will do for the progressive farmer."

### Fertilizers.

Chemists inform us that 1000 pounds of wheat, when burned, leaves 11.77 pounds ashes, and the straw 35.18 pounds.

The ashes of 1000 pounds of wheat contain 2.25 pounds of potash, 2.40 of soda, .96 of lime, 4.00 of silica, .40 of phosphoric acid. The ashes of 1000 pounds of wheat straw contain .20 of potash, 2.40 of lime, silica 28.70, phosphoric acid 1.70.

A thousand pounds of oats, leave about 26 pounds of ashes, which contain potash, 1.50; soda, 1.32; lime, .86; silica, 19.75;

magnesia, .67. Oats straw ashes amount to 57.75 pounds to a thousand pounds of straw, and contain potash, 8.50 pounds, lime, 1.52; silica, 45.88; sulphuric acid .79; phosphoric acid, .12.

The ash of the field bean contains potash, 4.15 pounds; soda, 8.16; lime, 1.65; magnesia, 1.58; silica, 1.26; sulphuric acid, 0.89; phosphoric acid, 0.92. The ashes of 1000 pounds of the straw contain, potash, 16.56 pounds; lime, 6.24; magnesia, 2.9; phosphoric acid, 2.26.

The ashes of 1000 pounds of the field pea contain, potash, 8.10 pounds; soda, 7.39; lime, 0.58; magnesia, 1.36; silica, 4.10; phosphoric acid, 1.90; sulphuric acid, 0.53. The straw of the field pea contains, potash, 2.35; lime, 27.30; magnesia, 3.42; silica, 9.96; sulphuric acid, 3.37; phosphoric acid, 240.

### OUR LONDON LETTER.

FOOD PROSPECTS IN ENGLAND.

(Regular Correspondence.)

LONDON, England, April 26th, 1881.

With a milder temperature, some slight rain-fall, and several days of bright sunshine, the wheat has regained a healthy color and have made decided progress. The harrowing and rolling which the bulk of the wheat acreage has now received has been of material assistance to the young plant, and it needs now but a genial rain-fall to put the wheat into vigorous growth. The lateness of the season has not, as yet, afforded any condition which, by itself, can be taken as militating against harvest prospects. The condition of the wheat crop—where there is a plant, of course—is very satisfactory, notwithstanding its exceptional backwardness, and, providing we have an ordinary rainfall in April and May, the advent of a hot, dry and forcing summer, should it occur, would not be against favorable results. In the case of spring corn, however, the possibility of such a contingency must now be a source of anxiety. Arrears of spring sowings are being fast overtaken, but the ground is too dry on the top to make first rate seed beds. The grain markets, during the past week, have been quite of a holiday character, and very little business has been done anywhere.



There has been no actual difference in the tone of the trade between London and country markets, but in the latter case supplies have been, in many cases, so exceedingly short, that prices have been maintained, where otherwise they must have declined. In London and other large port markets, this influence has been counteracted by the extraneous supply, and at the present time, London and Liverpool are cheaper than most inland markets. At Mark Lane, on Monday, 6d to 1s per quarter, reduction, was submitted to on English wheats, except for the very best qualities, and on Wednesday, the rates were nominally the same as on Monday, but the very small amount of business transacted was scarcely sufficient to test values. English flour remains unchanged in value, but the retail trade is in a very languishing condition. Barley continues very quiet and values are quotably unchanged. There is no change to note in the malt trade. Supplies are coming forward freely, and all inferior qualities are difficult to sell. Oats rule steady for good heavy samples, all others being in buyers' favor. Beans and peas slow and unchanged. The quantity of wheat on passage now, stands at 2,502,500 qrs., and flour, equal to 181,000 qrs. of wheat, an increase over the previous week's figures, equivalent to 85,000 qrs. of wheat. California stands credited with 1,306,000 qrs. of wheat; Australasia, with 346,000; the Atlantic ports of the United States, with 267,000; Chili, with 124,000; India and Egypt, with 111,000; Russia, with 71,500, and Danubian provinces with 31,000 to direct ports, and ports of call. Foreign flour meets a slow, consumptive demand, but sales are tedious at prices, which, in nearly all cases, favors buyers. In fact, all foreign breadstuffs are cheapest to buy. The off-coast market is now become tolerably well supplied with maize, the trade for which is very quiet in all positions.

Our representative lately learned the following from Carl Siegmund, Cor. Congress and Washington sts.: My daughter suffered from rheumatism to such an extent that it crippled her, rendering her unable to walk at all. We consulted many physicians and used all kinds of medicines, but in vain. At last St. Jacobs Oil effected the happiest results. It cured my daughter.—*Ex.*

## HORTICULTURAL.

For the Maryland Farmer.

### The Vegetable Garden.

NUMBER TWO.

As before suggested, pulverization of the soil is of the utmost importance, and to secure which, it may be an advantage to plow the ground in the late fall, or if this is not done, in such time in the spring as will admit of a second plowing; it is often the case that this course is productive of excellent results, both in aiding the pulverization, and also in the destruction of such weeds as might get started in growth early in the season. Another point of importance is the size of the garden. To have a few square rods of surface devoted to the cultivation of a few hills of potatoes, corn, beans and possibly a few other vegetables, is not worthy of the name of a vegetable garden, and yet there are very many that answer to that description. For the summer months, and in fact, until late in the fall, there is nothing that aids in the support of the family, more than a good vegetable garden; but that is not the chief consideration, it furnishes many luxuries and articles of diet that are promotive of health, as well as gratification. While it would be unnecessary for the average farmer to undertake the cultivation of every variety of vegetables that are described in the catalogues, it should be his aim to make use of the more common kinds, and use such selection as will insure a succession at all times.

There are also those that should find a place in every garden, that are perennial in their nature, and only require proper care to be continued for a long time, and are such as fill an important place in the household economy. Among such may be classed asparagus and rhubarb; the former affords a very choice dish in the early spring before other plants hardly make their appearance.

It being used for greens, is very highly prized by many, and is a sufficient reason why a little extra care should be taken in its cultivation. It was not the intention to enlarge upon each variety of the vegetable class, but the special importance of some, seems to require more than a mere mention. The asparagus bed is formed by set-

ting the young plants the second year from the seed, which may be sown at any convenient spot, and where it may remain undisturbed until it is transplanted. The bed should be formed in a sheltered spot, where the sun will strike so that its maturity may be hastened. The preparation consists of trenching deeply, filling the trenches with good manure, and then setting the young plants in the trench and covering with earth. About three or four years will be required before the plants attain to such vigor as to produce stalks that are large enough to cut, but after that, the bed will continue almost indefinitely with proper care. The asparagus is a plant that feeds greedily upon salt, and therefore a dressing occasionally will be found to be beneficial. After the plants are set, the fertilization has begun by means of surface applications, so that, in the fall, the bed should be thoroughly covered over with some good manure; horse manure is considered preferable, from its healing nature, and this, in early spring, should be raked or otherwise worked into the soil.

A point of importance in the management of asparagus, is to suspend cutting the stalks at such time as will insure the continued health of the plants; otherwise, too severe pruning of the crowns would be very likely to produce disease, and finally, the destruction of the entire bed. In sections where the ground freezes in winter, and does not always thaw out until the arrival of spring, a mode of hastening the growth of asparagus consists in covering the bed with a brush heap of sufficient size to insure a thorough heating and warming up of the soil, which is burned thereon, and which almost always causes the crowns to shoot up through the soil a short time after. Instead of a dressing of salt, as recommended, it is frequently convenient to water the bed with the brine of the pork or beef barrel which is equally as good.

After passing a winter, the relish of asparagus, fresh from the soil, amply pays for all the trouble required in its cultivation.

Rhubarb is another early plant, and hardly less important than asparagus. Its more special use is for pastry cooking, and as a table sauce, which, from its being fresh and possessed of a sprightly acid, is an excellent relish, besides possessing important

medicinal qualities. There is something peculiarly invigorating in the juice of the rhubarb stalk, when taken fresh from the plant and chewed.

Having once obtained the sort of rhubarb, after-cultivation is by no means difficult. It may be grown from the seed, but it is much better to start with a root. The preparation of the soil is similar to that for asparagus, and probably the more pains there is taken then, the more satisfactory will be subsequent results.

Where a soil has been inclined to moisture, a deep trench has been dug and the bottom filled with small stones, over which was placed manure and soil until the ditch is filled. As rhubarb grows and spreads quite rapidly, occasional division of the roots in the hills, increasing the number, will insure larger stalks, and by thus transplanting, new and more fertile locations, or those that have been more especially prepared may be selected. This should be placed in a warm locality that it may come as early as circumstances will allow. It may also be hastened by covering the hill with an empty barrel, leaving the top head in, which will also insure greater tenderness. Or if a little is desired still earlier, take from the ground, a hill, and place in a hot bed as soon as it has commenced to heat, or, in the absence of a hot bed, prepare one by means of some horse manure that will soon generate sufficient heat to force the rhubarb forward; or, as is sometimes recommended, plant the hill in a manure heap and success will be attained. All plants or vegetables are considered luxuries, in proportion as they can be produced a little in advance of the average putting upon the market.

Columbus, Conn. W. H. YEOMANS.

(To be continued.)

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The Rt. Rev. Bishop Gilmonr, Cleveland, Ohio; Charles S. Strickland, Esq., 9 Boylston street, Boston, Mass.;—Capt. Paul Boyton, the World Renowned Swimmer;—Professor C. O. Duplessis, Manager Chicago, Gymnasium, Chicago, Ill.; Wm. H. Wareing, Esq., Assistant General Superintendent, New York Post Office;—Hon. Thomas L. James, Postmaster, New York;—Stacey Hill, Esq., Mt. Auburn, Inclined Plane Railroad, Cincinnati, Ohio, are among the myriads who have experienced the beneficial effects of that most remarkable remedy, St. Jacobs Oil, and who have testified to its efficacy in unqualified terms.—*Pittsburg Commercial Gazette.*



For the Maryland Farmer.

## Horticulture in Maryland up to 1880.

BY JOHN FEAST.

[Continued from page 146]

A general view of the private residences of amateur horticulturalists has been given, and I shall now mention most of the professional florists and gardeners in the vicinity of Baltimore. I begin with

ROBERT HALLIDAY, who resides north of the city, on the Liberty road, and has a large nursery for trees, and also several houses for plants. Many roses are planted in the grounds, to furnish cut flowers to fill orders for large quantities, and large quantities of violets are grown in frames. Mr. H. has removed from green-houses at the corner of Pennsylvania Avenue and Dolphin street, Baltimore, but they are now in possession of his son, R. J. Halliday, who has greatly increased the magnitude of the establishment and cultivates flowers on a large scale for the trade. In connection with these extensive green-houses, there is a handsome store at the corner of Charles and Baltimore streets, where an immense number of cut flowers and choice plants are daily sold. Both father and son do a large business, and well deserve their popularity.

JOHN E. FEAST, is another Baltimore florist. He is the son of Samuel Feast, one of the original florists of Baltimore, who, in the spring of 1824, entered into partnership with his brother, John, on the Frederick road, near the city limits, under the name of "Samuel and John Feast," the latter is the author of these horticultural notes. John E. Feast is now located near Loudon Park Cemetery, on the Frederick road. He has a few acres in cultivation, and several houses for plants. A portion is set in roses for cut flowers, of which a large quantity is sold at his store in the city, on Charles street, near Barnett street, where, also, are sold many plants.

The collection is a general one, among which are some good plants. The cultivation in general is good and he raises a full supply of flowers. He has produced some fine specimens of plants which, on exhibition, have done him credit.

JAMES PENTLAND, opposite Greenmount gate, is an old and respected cultivator of

plants and flowers. He has taken, always, much interest in horticulture, and has raised many new and excellent seedlings, that are now popular. He has several houses devoted to the culture of flowers and plants—some to roses, and some to grapes, of which he has fine crops. Mr. P. keeps in nice order a number of select ferns and has fine camelias that produce good flowers. His collection is considered worthy of notice, for he has produced some choice specimen plants, and grows a large amount of cut flowers to supply his floral depot, under the Y. M. C. A., corner of Charles and Saratoga streets. Mr. P. enjoys a full share of public patronage, having, at all times, a sufficient stock to supply orders on the lowest terms.

GEORGE BERGER, a little nearer town, has a small, compact place, on which are two houses, in which he grows plants and cut flowers for market. In connection with his own he has in charge the collection of Mr. Zebulon Waters, who died some years since. In the Waters' collection are some good camelias and some old, specimen plants now scarce. Mr. B. grows largely of verbenas and other bedding out plants, fills baskets with good plants and furnishes cut flowers, at low rates.

ANDREW BLACK, whose place is on elevated ground, east of the falls, commenced business a few years ago, by erecting a long range of houses for grapes, and since then has re-modeled a part for plants, of which he has a general collection, which show a good cultivation. His aim is, now, chiefly cut flowers, for which purpose he has, now, several houses planted, and is doing a fair business. He raises, under glass, extensively, calla lilies, violets and roses, which are increasing so as to demand continual provision for their protection. He is a good plant grower, having often exhibited fine specimens, and being fond of horticulture, industrious and attentive to his business, is considered a successful florist.

Anthony Cook, on Mulberry street, has been in the business some years, at first, chiefly devoting his propagating houses to roses, when they were the rage—budded roses of every sort, but a change has taken place in fashion, and those who had a large stock of such as are now thought worthless, sustained much loss. Few of that class of roses are now propagated, except



the free, ever blooming, tea scented kinds. Since the fashion is now for cut flowers, Mr. Cook has turned his attention to those that are profitable. He originated one—the *Cornelia Cook*, among many new roses, that stands near the head of the rose list, producing beautiful buds, very large and creamy white. He has a large assortment of flowers and a general stock of hardy plants, vines and creepers, also many choice clematises, of which he has raised several notable seedlings. Herbaceous plants seem to be his delight and therefore grows all the leading sorts.

JOHN COOK, son of Anthony, is located west of Fulton Depot. His business is, chiefly, selling cut flowers, of which he has a good collection, and grows in frames a large number of small plants for bedding our purposes. His garden is gay in summer, and in winter the houses are full of them, with also many carnations. Mr. Cook grows his plants well and his geraniums are made to bloom in perfection.

J. Fox, on Bolton street; George Uppercue, west of Fulton Depot; Thomas Brindall, on the Potomac Railroad, near the city, and Mr. Voegler, on the Frederick road, have, each, small, but well managed floral establishments, from which large quantities of cut flowers and pot plants are sold in the markets, and are doing, each for himself, a good business, which they well merit.

ROBERT SMITH, opposite the Wilken's factory, occupies the same grounds that were established by Samuel and John Feast, in 1823, and grows plants and flowers for cutting, extensively, and has on hand a large surplus stock.

W. D. BRACKENRIDGE resides at Govanstown, Baltimore county, and has several acres in trees, plants and flowers, besides several propagating and green houses. His specialty seems to be evergreens, of which he has a great variety and many superb specimens, both tender and hardy sorts; also a select list of fruit trees which may be relied on, as true to name. The floral department it would seem is more particularly under the direction of his son Archer, and contains many rare and beautiful flowering plants which are often exhibited at the meetings of the Horticultural Society in nice condition and always command the admiration of the public. Mr. W. D. Brackenridge has a national reputation as

a botanist and horticulturalist. His great experience, practical knowledge and extensive learning places him at the head of his profession.

THOMAS FAIRLEY, on Druid Hill Avenue, has one of the most compact and well managed places to be seen, and the houses so conveniently ordered as to be easily managed, with their large collection of good plants. The stock of roses are of the best, and well established in pots for planting, which, with other plants he raises largely for supplying the gardens he has under his charge. Daphnes and ferns seem great favorites with him. He also sells to the trade large amount of cut flowers. Mr. F. has another place in the country, near Reisterstown, on the Western Maryland Railroad, where he grows a variety of vegetables in quantities, and has there, also, a large and flourishing vineyard. The grapes are now in full bearing.

ROBERT CORSE is the proprietor of the grounds formerly belonging to his grandfather, the late Robert Sinclair, one of the pioneers in agricultural implements, and who begun the present nursery which has grown up, under Mr. Corse, to be the largest in the State. Large quantities of fruit and ornamental trees, hardy shrubs and evergreens are grown to meet the great demand for them; so extensive is this business, he finds no time to devote to the propagation of flowers. The soil seems to be peculiarly adapted to the growth of trees, which cover a great many acres, and being skillfully cultivated, grow rapidly in fine forms, and hence, are much sought after by a large number of customers, whose dealings for years have furnished no cause to doubt the integrity of the proprietor of this famous Maryland nursery.

RICHARD CROMWELL is the owner of "Patapsco Nursery," just over the Patapsco river, in Anne Arundel county. These grounds were the property of his grandfather, the late Richard Cromwell, distinguished as the first one to introduce peaches, strawberries, melons and peas, on a large scale, into the Baltimore markets, which stimulated others in the like direction, until now, those neglected and poor lands have become as valuable as any lands in the State, and by his energy and foresight millions of wealth has been added to that county. The present proprietor has enlarged, yearly, the nursery, and disposes of

large quantities of fruit trees, evergreens, ornamental trees and flowers. He has erected green houses and conservatories for the production of cut flowers and plants to supply the trade, as well as his store on Light street where many of these things are sold, besides a great many plants, such as tomato, egg, pepper plants, etc. This nursery, in connection with the store for the sale of agricultural implements is doing a flourishing business.

CHARLES HAMILTON, florist at Waverly, deserves much credit for his enterprise, having erected several houses for plants which form a fair collection, grown chiefly to sell in the markets as cut flowers and bedding out plants. As chrysanthemums, of which he raises a great many, are his favorites. This pretty, fall flower is worthy of more attention, it is scarce, and but few new varieties. He grows some good cactus. His grounds are not large, but well filled with such varieties as are generally called for, and he is constantly adding new varieties of plants to his stock.

WILLIAM UNWEIN on St. Paul street, near Newington Ave., has a small place with four houses to grow a mixed collection of plants for market, with cut flowers. He usually sells out during the year and starts with young plants grown each year. A large amount of the plants he raises, he sets out in the gardens that he has under his superintendence.

For the Maryland Farmer.

### Early Harvest of Wheat.

From those who have experimented in the matter, we have much testimony that there are many benefits derived from harvesting wheat some days earlier than is the common custom—that is cutting it when in the *dough* state, while it is soft enough to be crushed between the thumb and finger.

So certain am I that it will be found advantageous to cut the wheat 3 to 5 days sooner than the usual practice, that I would urge farmers, everywhere, to try it the coming harvest season; at least to try an acre or two, which cannot be serious if not found to be useful; *cut a few acres in the dough state*—then thrash and weigh it separately from same number of acres cut when fully ripe and note the result.

D, S, C.

### SPANISH STOMACHIC AND CORDIAL.—

The well-known fragrant garden favorite, the sweet scented or lemon verbena, seems to have other qualities than those of beauty and odor, for which it is usually cultivated. The author of a recent work, "Among the Spanish People," describes it as being systematically gathered in Spain. Where it is regarded as a fine stomachic and cordial.

It is either used in the form of a cold decoction, sweetened, or five or six leaves are put into a teacup and hot tea poured upon them. The author says that not only is the flavor delicious, but that if it be used one need never suffer from flatulence, nervousness, diarrhea, or loss of appetite.

HISTORY OF A BEAN.—The history of a single bean, accidentally planted in a garden at Southbridge, Mass., is traced by a newspaper correspondent, who figured out its produce for three years. The bean was planted in a rich, loamy soil, and when gathered in the autumn, its yield, as counted, "was 1515 perfectly developed beans from a single stalk. Now, if a single bean produced 1515 beans, and each bean produces 1515 more, the sum total of the second year's product would be 2,295,225, equal to 1195 pounds, 597 quarts, or 2,390 army rations, equal to 18½ bushels. This would be the product for the second year. Now, if we plant this product and the yield is the same, we have a product of 5,268,058,800,625 beans, equal to 1,371,890 tons, or 42,861,572 bushels, or 548,756,068 soldiers' rations. This third planting would give the steamship Great Eastern ninety-two full freights."

COLIC IN HORSES.—The following remedy never fails to give relief in this disease if promptly administered and in good time. It is one of the secrets of the profession: Sulphuric ether, one pint; aromatic spirits of ammonia, one pint; sweet spirits of nitre, two pints; opium, one-fourth pound; assafoetida, pulverized, one pound; camphor, one-fourth pound. Mix. Let it stand 14 days before using. Dose—one ounce (or less, according to the size of the horse) every thirty minutes until relief is afforded."

Few farmers are thoughtful or provident enough to provide such remedies as the above before they are needed, and then it is too late.



# MARYLAND FARMER

A STANDARD MAGAZINE,

DEVOTED TO

Agriculture, Horticulture and Rural Economy.

EZRA WHITMAN, Editor,

COL W. W. W. BOWIE, Associate Editor,

141 WEST PRATT STREET,  
BALTIMORE, MD.

BALTIMORE, JUNE 1st, 1881.

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THE MARYLAND FARMER is now read by more Farmers, Planters, Merchants, Mechanics and others interested in Agriculture, than any other magazine which circulates in the Middle or Southern States, and therefore is the best medium for advertisers who desire to extend their sales in this territory

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Any person who sends us 100 Subscribers, at \$1 00, will receive the world-renowned Howe Sewing Machine, with all the latest improvements. Value, \$50.00.

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Any person who sends us 50 Subscribers, at \$1.00 each, will receive 1 of the celebrated Wheat Fans, which has taken nearly 200 premiums. Value, \$28.00.

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Any person who sends us 6 Subscribers, at \$1.00 each, will receive a Nickel-Plated Revolver, Long Fluted Cylinder. Value \$2.50.

THESE ARTICLES WE WARRANT TO BE FIRST-CLASS.

☞ It will not be necessary to secure the subscribers all at one time. For instance, if any one wants the Mill we offer for 80 new subscribers, he can send the names in any number he chooses, and we will allow him a whole year to finish the club.

☞ COL. D. S. CURTIS, of Washington, D. C., is authorized to act as Correspondent and Agent to receive subscriptions and advertisements for the MARYLAND FARMER, in the District of Columbia Maryland and Virginia.

☞ Our friends can do us a good turn by mentioning the MARYLAND FARMER to their neighbors, and suggesting to them to subscribe for it.



### Works of Art—Free.

*With the Maryland Farmer for 1881.*

Any new subscriber who sends \$1.50 will receive the MARYLAND FARMER for one year, and his choice of either one of the splendid pictures as advertised in this number, with miniature wood cuts, which, however, give only a poor idea of the beauty of the engravings in the new style of art, which far surpass any chromo as objects of art. Any person sending \$2.00 will get the Farmer and both pictures as advertised. This liberal offer is also extended to every old subscriber who pays up his arrears and adds thereto 50 cents for one picture, or one dollar for the two.

"Everything worthy of the name of *Picture*, has a soul and body. Canvass, paper, color or contour are the one; the idea that shines through them and invests them with life and glory and reality is the other. Where the soul is wanting, however perfect the body, the picture does not speak pleasantly to the soul of the beholder. The works of art we offer our readers are full of 'soul,' enshrined in good body."

PREMIUMS TO SUBSCRIBERS TO THE MARYLAND FARMER.—This number closes the half year of the present volume of the MARYLAND FARMER, and hence it is a good time to subscribe, so as to begin with the July number. As an extra inducement we will send, free, as a premium, to each new subscriber during the year, either one of the following valuable books he may select: "Curtis' Wheat Culture," "Fisher's Grain Tables," "Kendall's Horse Book," or "Scribner's Lumber and Log Book."

Either of these books are worth to the farmer, more than the price of our journal, and by enclosing *only One Dollar*, the MARYLAND FARMER will be sent one year, and either of the books selected, free of postage.

### American Agricultural Association.

The quarterly meeting of the Board of Directors of the American Agricultural Association, was held at the St. Denis Hotel, New York, on Wednesday, the 4th. The President, N. T. Sprague, of Vermont, in the chair. Hon. E. Pekar, a representative of the Austrian Government was present, delivered an interesting discourse on wheat and sheep culture in Hungary.

The Secretary, J. H. Reall, presented his report which was received and approved.

Letter from prominent agriculturalists and others throughout the country, complimenting the Association and its Journal, were read.

Among other business, the following resolution of Mr. J. N. Reall was adopted.

*Resolved:* "That this Association will hold a national exhibition of American farm products, including domestic animals, agricultural implements of every kind and the machinery incident thereto, at some central point in the United States, in the year 1882, and that the Committee on Exhibitions be instructed to take the necessary measures to carry this resolution into effect."

The Secretary stated that the Journal had been very favorably received in this country and in Europe, and that a great number of the most prominent agriculturalists, in all parts of the country, had presented their names and desired to be enrolled as members.

MURIATE OF POTASH.—Mr. A. S., of Somerset, Md., asks us, "How does muriate of potash compare with wood ashes? How much should be applied to the acre, and how? To what crop is it best suited?" Wood ashes contain a large proportion of potash, but they contain several other highly fertilizing properties. If land requires chiefly potash, we should apply muriate of potash, as it is not costly. We would put 100 lbs. to the acre, after being well mixed with plaster, dry earth or sand—say 50 lbs. of plaster or two bushels of dry earth or sand, mixed with 100 lbs of muriate of potash. This article, *potash*, enters into the composition of most plants, particularly corn, tobacco, potatoes, &c. Eds. MD. FAR.

## THE DAIRY.

For the Maryland Farmer.

### Breeding Dairy Stock.

#### NUMBER TWO.

If the dairyman will turn over the leaves of our illustrated stock journals, not many lines of beauty will be found among the many famous milkers there depicted, but on the contrary, they are "skeletons in armor," loosely covered with a hide, and carrying an enormous udder, a form that has been sacrificed to the milk principle, the dispensing of all surplus points, and gaining all possible advantages that contribute towards securing a great yield of milk. In fact, the reputation of a dairy cow, is upon her milk signs, and actual milking qualities, rather than beauty of form.

In breeding a line of dairy cows the central idea must be to develop milking qualities, and characteristics that go to make up a complete list of points, and so thoroughly establish the prepotency of the race, that it will become an inherent peculiarity. To breed for milk, one must lay aside thoughts of combining milk, beef and fattening qualities, for these three qualities are of a necessity, dissimilar, and only in individual instances can they be found combined, and to so breed as to produce them, will cause a failure. Success must come from building up a special quality, and so breed that this shall become permanent.

Breeding for dairy stock can only be done by two methods, by inbreeding and grades; the first had better be termed thorough breeding, and the last, by judicious selection.

If, by the first method, the farmer selects his choicest cow, and breeds her to a bull that has an excellent reputation, and backed by a strain of milkers. Should a heifer calf result, it should also be bred to its sire, doubling the surety of the sought qualities. The best reason for this close breeding at the start, is from the fact that the heifer's first calf has its future influence upon later offspring, and this twice fixed quality in the beginning, lays permanently the foundation for the herd, establishing it as no diversified breeding from different strains of blood can.

There was objection, once, to this idea of inbreeding, that it diminished the size,

symmetry and vigor of stock, but if attention is given that the male is properly fed and kept up to the "regulation," size and vigor, this objection will not be valid, and even if there should be no loss in symmetry, the developing of the milking qualities more than compensate, for it is milk, not beauty that tells at last in the dairyman's bank stock account.

Ohio, May 7th.

J. G.

For the Maryland Farmer.

### Choice Butter.

Choice butter always commands a very remunerative price, on account of its evident scarcity, though there has been a vast improvement made in the average quality of the butter marketed within the last few years, owing to the dissemination of pure bred butter stock, and the infusion of this blood amongst the herd of common cows.

Unless good butter stock is used, such as produce rich milk and high colored butter, no amount of after care and skill will produce a choice and high priced butter. There are many who have good butter dairy animals, yet, who signally fail to produce butter of even an average good quality, for they do not realize that so much depends upon the butter maker, as well as where and how both the milk and cream are kept.

The utmost cleanliness must be observed in all departments of the management, for there is nothing more susceptible to the influence of bad odors than is cream and milk, and if it is kept in a cellar or other place where vegetables, meat, &c. are stored, it will be sure to absorb the odors arising from the same.

Ordinarily, we have obtained the very best results from setting the milk about six inches deep, in ordinary milk pans, and without artificial heat the milk will have slightly soured and the cream be ready to be skimmed off after standing about thirty-six hours. In warm weather the churning should be done twice every week, but in cool weather, once a week is often enough. The cream should be stirred repeatedly, while in the cream can, to keep it of an even thickness and prevent the top from souring. In churning, a moderate, and not a fast motion, is best, as it does not break the globules of butter, and improves



the keeping qualities and texture. The milk should be all drained off, the butter taken out of the churn and worked well, with an apple wood paddle, to free it from butter milk, &c., then salted, using about two ounces of salt to each pound of butter, worked again, and made up, at once, into prints.

Washing the butter we must condemn, for it impairs the quality and texture, while its keeping qualities are greatly impaired. When the butter is removed from the churn by hand, the hand should be kept as cool as possible, by frequently dipping it in cold water, to prevent the butter from being softened by the heat of the hand.

E.

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## POULTRY HOUSE.

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### Success with Turkeys.

I used to think, with many others, that turkeys were a feeble, sickly race. But after witnessing the wild birds with their large broods of young giving chase to men and dogs and guns for hours and days together, I came to believe that the feebleness results from improper training. Last season, which I called a bad one here, I lost ten per cent of the eggs in hatching, and four per cent of the turkeys in coming to maturity. The best results will be had from using hens two years old and gobblers one year old. The most important point is to have good seed. The different sexes must not be blood relations. The chicken has to "born himself," and if he is not possessed of downright perseverance and a good constitution to begin with, he is very apt to end his days in darkness. A weak, sickly, idiotic calf may, by good nursing, grow up to be quite an animal, but a turkey of that stamp is quite likely to die about the first time his mother steps on him, if he has succeeded in getting through the shell. The location of the nest may have something to do with the hatch. I think it should be near the ground, or on the ground, with straw or hay to put the eggs on. It is a good practice to turn the egg over a few times during the period of incubation.

Turkeys have done the best with me when fed much the same as we would feed mammals. I give them wheat bread slightly

moistened with sweet milk to drink at first. Keep water before them also. In a few days they will bear boiled potatoes, cornmeal and shorts mixed together, moistened with sweet or sour milk. They are very fond of milk that has been curdled on the stove, eating it from the first. Nostrums, such as pepper, etc., we have no use for, though they may do no harm. Confine them two weeks, more or less according to the weather, in a box about four by eight without top or bottom except a board over one corner. It should be about twenty inches high. Move it frequently to afford clean quarters, a new supply of grass, bugs, etc. Feed a little whole grain when old enough to eat it. But I do not think this will grow more than half the bone and muscle that milk, sweet or sour, with bran, shorts and a little cornmeal stirred into it will. Feed it till Thanksgiving; it won't hurt the dinner at all. Keep a close watch of the old gobbler after the young are hatched. He is a genuine old "Brigham." He will kill the young ones on the sly, and you will think they have epizootic or lice. Shut him up for a time if he is ugly. Keep the turkeys tame as possible.—*Cor. N. Y. Tribune.*

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### Pigeons and Nutmegs.

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The wood doves or ring pigeons are better known in France than elsewhere. Our domestic pigeon is only a modification of the blue rock pigeon, and this is proved by the fact, that if the domestic and blue or wild rock are allowed to breed, the young will, in many cases, resemble the wild rock, with its plain plumage and barred wings. The domestic pigeons are divided into two classes, the colombrio and the aviary pigeons. The former are almost wild, and the latter are those with which we are so familiar.

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The question how carrier pigeons find their way home is probably one never to be determined. Some writers assert that the birds are guided by landmarks, and give as proof that when the ground is covered with snow the birds are confused, and others say that they are influenced by some magnetic or electric current, and on this point it is noticed that birds either fly east or west, north or south, and when started, rise at a great height, and for a

minute hesitate, and then by unknown instinct, they dart off in the right direction. The exact date of their utilization is not known, but as far as we know, Noah had the honor of having first pressed into service, our feathered friends. Pliny says that these birds were used by Brutus and Hirtius during the siege of a town by Marc Antony. In 1764, at the siege of Leyden, they were used by the Prince of Orange, and by their means he succeeded in freeing a town that was besieged. To show his gratitude, he ordered that the sagacious birds should be fed on strawberries, and that when dead, they should be embalmed with all honor. In Pliny's time, navigators from Cyprus and Egypt carried these birds on their galleys, and on their safe arrival liberated them to convey the good news to their families. Of the different kinds of carrier pigeons, the Belgian bird is preferred. It has a short back, large, round head, and broad shoulders. The fancy carrier, with large wattles on his beak, is often used, but it is vastly inferior to the former.

### Most Profitable Cross for the Farmer.

It is, of course, far more preferable in breeding poultry for marketable purposes, to keep two varieties, one as layers and the other as setters. This, however, is impossible to many farmers, and it is for the purpose of giving them the benefit of my experience in crosses that this article is written. The farmer who wishes poultry as an adjunct of importance to the supply of his larder, and also as a marketable product, is the one whom I wish to reach. In all crosses, the chief thing to be aimed at is to so unite the different qualities of two breeds as to retain the best of both. To supply a market you want a bird which is a hardy and rapid grower, has plenty of good meat on its bones, is of large size and handsome appearance, when dressed. The majority of the laying breeds, such as Hamburgs, Leghorns and Polish, are too small, the color of the legs, in some, objectionable, and they do not set.

On the other hand, the Asiatic varieties become broody too early, their bones preponderate over their meat at an early age, and they are very deficient in the quality

and even quantity of breast meat. The Houdan, by far the best of all birds, in point of breast meat, except the Dorking, is a non-setter, and in woody districts becomes a prey to hawks, on account of its crest. But take a Houdan cock and cross him with hens of any of the Asiatic varieties—the Brahma in preference—and you get the best table food I know of. From the sire the chicks get their laying qualities, their rapid and hardy growth, and their full and delicate breast; while the Asiatic hen gives the framework for a larger fowl and the proper leg color. At the same time you lose the leg feathering of the Asiatic, and the crest of the Houdan is so modified as to become of no disadvantage. The chicks grow more rapidly than any breed I know, are plump, juicy and ready to eat long before all others; and when grown, lay nearly as well as the Houdan, and do not set so persistently as the Asiatic.

I would earnestly advise farmers to give the cross a fair trial. T. B. DORSEY.  
(*Germantown Telegraph.*)

## THE APIARY.

For the Maryland Farmer.

THE HEAVY LOSS OF BEES AND HOW TO RECOVER THEREFROM.

BY J. W. PORTER.

OF KENWOOD FRUIT FARM, VIRGINIA.

The severity of the winter just past, as well as the carelessness and improvidence of many apiarists has resulted in very heavy losses. How to recover from such losses may be a matter of much importance to some of your readers, but it is to be hoped that many of them have the requisite knowledge so essential to the success of the apiary. We will suppose that all up to the "spirit of the age," are in possession of movable comb hives of some sort, for without that, little may be expected. All sound, good combs should be put away safely, secured, and where they can be fumigated with sulphur, during warm weather to protect from moths. All others should be converted into wax. Populous colonies of bees propagate, to a considerable extent all through the winter, but extend rapidly as spring opens, if food is abundant, and will, to the extent of their



ability to keep up the necessary warmth, if supplied with the requisite food—honey and pollen—the latter being the principal food of the larvæ. It is better to have no large supply of honey in the hives, in the spring, if rapid increase is desired, for it is found that feeding thin honey (a sugar made of *A* coffee, sugar answers as well,) in small quantities, daily, stimulates to greater activity, and the room is needed for brood raising that might be, as it often is, unless taken up by honey sealed up in excess of actual need.

Take a hive that has had its space circumscribed last fall from ten combs to seven, by a division board—a most excellent practice—for it reduces the space which has to be kept warm enough to maintain life.

If weak in the spring, great care must be taken to protect it from cold, by ample covering of chaff cushions or blankets on top of the frames and a contraction of the entrance. Then a gradual feeding, beginning as soon as they can fly freely, and a very gradual expansion of brood nest, (which is better for the novice not to attempt at all, as there is great danger of overdoing it.) This may be done after they are so far strengthened in number as to nearly cover all the combs, by spreading outward and inserting empty combs in the centre. In this latitude bees gather pollen from the alder very early, and then from willow. If natural supplies of pollen are deficient, they will take rye flour and finely ground oat meal spread out under a shelter. The supply of pollen is usually ample, however, and in many localities excessive.

Many old combs are loaded with it, and such may be used to supply the pollen. The honey or syrup should be rather thinner than old honey, natural nectar is nearly always thin when gathered. Fed on top of the frames under cover in the evening, or by substituting combs uncapped that have been kept over for the purpose, for empty ones in the hive on the sides is better still. Many different appliances for feeding have been invented. A quart can, like a fruit can, with a closely fitting cover, with a two inch piece of milk strainer metal in the cover is excellent. Filled with honey, very thin, and inverted, it will not drip, but the bees can draw the last dropt if placed over the frames and well covered. It is usually better not to divide till fruit

bloom appears, but if an early beginning is made and the increase is rapidly going on, and there is not room enough in the hive to extend, a division may be made before bloom appears, but supplies of food must on no account fail.

When the division is to be made, take out the queen, with three combs of brood or adhering bees, leaving seven combs. Place the three in a hive prepared with a division board, and with them, two empty combs. as these combs are filled expand and add more, till the hive is again ready for division.

The parent hive, supposed to be full of brood in the combs left, in all stages of development, from eggs to *sealed* brood will, at once, proceed to build queen cells. The more populous and prosperous it is, if care has been observed that plenty of eggs are left; the larger will be the number of queen cells. The building of queen cells goes on with great rapidity, for it is one of the provisions of nature that the *Queen* or *Mother bee* can be produced, in all perfection, in about seven days less time than the worker or drone takes for its development. And a still greater wonder that this queen bee is perfect when it emerges from its cell and can fly at once; whereas, the worker bee comes out of its cell, weak and puny, requiring several days further development before it can take wing.

About the twelfth or thirteenth day, the old hive must be prepared for a further sub-division to utilize these queen cells. Its strength must be the criterion by which to judge of the number. If the cells are nearly all together on one comb, carefully cut out such as are wanted, leaving one of the best developed, and insert the others by grafting one only, in each of the combs used. It would not be advisable, from the one hive, to make more than three, but if other colonies are available, all the cells can be utilized and their product, if skillfully managed, become the mothers of populous colonies. Not less than three combs well covered with bees, should be used to make an artificial swarm. It is not safe to extensively sub-divide bees, until brood has been hatched out sufficiently to furnish large numbers of young bees.

The novice should bear in mind that in sub-divisions, the old bees largely fly back to the parent hive while young bees do not. While it is possible and very easy for the

expert apiarist to rapidly increase his colonies, the novice could, if imprudent, weaken and destroy his stocks.

Therefore go slow and be on the safe side. Generally, it is impolitic to push forward in advance of the season, for there is often an interval between fruit bloom, and the supply from field and forest, which is often most unfavorably felt in very populous apiaries.

Last year, one of the best American apiarists had to feed 1500 lbs. of sugar to keep his overstocked hives from starvation. But, in a few weeks thereafter, they, by virtue of their numerical forces, gathered, all within 15 days, 15,000 lbs. of honey for him. One strong colony is worth three weak ones for honey gathering. The male bee, or drone, is rarely permitted to live during the winter. As his presence is essential at the time queen bees hatch, care must be taken that some drone comb is in the centre of the hives, manipulated for early increase.

[The above, excellent letter was crowded out the last month, by excess of correspondence, but its advice will be stored up by the bee-keeper against another winter.—EDS. MD. FAR.]

**PRIZES FOR COLLIE DOGS.**—At the New York Dog show, held in April last, the first prize for champion collie dog was awarded to Tweed II, owned by the Scotland Kennel Club, New Market, Md. The samb club was awarded first prize for "Meg Merrilies, in the class of collie puppies. We congratulate Dr. J. W. Downey upon his triumph in taking two first premiums and having several others of his kennel very highly commended.

**THE GREAT BUTTER COWS, PANSY, JERSEY BELLE AND EUROTAS.**—Pansy, now dead, was the property of J. H. Suttiff, of Bristol, Ct.; Jersey Belle is the property of Charles O. Elms, of Scituate, Mass.; Eurotas belongs to A. B. Darling, of New York. It is claimed and admitted that Pansy made 572 pounds of butter in 12 months; Jersey Belle made 705 pounds. and Eurotas 706,

## OUR LETTER BOX.

Mr. Ed. C. Legg, of Kent Island, Md., in sending us his advertisement of sheep, which our readers will see in this number, enclosed us a beautiful specimen of wool, accompanied with the following statement.

"Sheep have emerged from the rigors of the past winter, in rather poor condition, but we hope to compare favorably with all competitors. I sheared my grand imported ram "Royal Sherbourne," in the month of April, just one month in advance of regular shearing time, and realized just 20 lbs. of fleece from him. Had he been kept in high order through the winter and kept one month longer, before sheared, he, I verily believe, would have sheared 25 lbs. He was fed with the rest of the flock. Ewes that heretofore sheared 16 and 18 lb. fleeces, gave 10 and 12 lbs., which evidently shows that had he been kept in extra good condition, his fleece would have far exceeded 20 lbs. I herewith hand you the weight of fleeces of some choice ewes, 11 lbs., 12 lbs., 12½ lbs., 14½ lbs. and 17½ lbs. Will give you an article soon on the winter management of a flock."

The specimen of wool sent us, was taken from a two year old ewe, that sheared 17 lbs., and exhibits better than words, the merits and wool bearing qualities of Mr. Legg's superior sheep.—EDS. MD. FAR.

### TOMATO CULTURE.

*Editor Maryland Farmer.*—I write to request some of your correspondents who are engaged in the "trucking business, will give our Virginia "truckers" their mode of cultivating *tomatoes*, particularly, the mode of manuring and cultivating. I ask this, as I had an opportunity for several years past, of observing this vegetable in the Baltimore and Washington markets, and seeing its great superiority to our Virginia tomatoes. This may be due, possibly, in a measure, to climate, but I cannot help thinking it is due, in a great degree, to difference in management. As tomatoes are now set out, the information sought will not be of much utility to the present crop, unless perhaps in the mode of cultivation the rest of the season, but we can make a memorandum of it for the next



season. Our interests in this crop do not clash, but if they did, I believe your farmers would not be governed by any selfish consideration in withholding the desired information.

You beat us also in *watermelons*,—even old "Hanover" has to yield the palm, and we should also like to hear about melons from some of your skilled raisers of that fruit."

yours truly,

TH. POLLARD,

Commissioner of Agriculture, Va.

[We hope some of our successful growers of tomatoes and melons, in our vicinity, particularly in that part of Anne Arundel county, known as the strawberry region and the home of the melons, will give the information requested through our columns. The Piney woods and the Magothy section has become celebrated for these productions, and the gardeners, no doubt, have brought the culture of them to a perfected system, as their superiority cannot be attributable solely to locality.—EDS. MD. FAR.]

### Journalistic.

THE BALTIMORE GAZETTE has lately changed hands, and appears now in an attractive form and a handsome dress, with the Hon. George Colton as its proprietor and chief editor. It has already given proof of great vigor, ability and worth, as a political organ, an essential helper to the material progress of the industries of the city, and of the prosperity of the State, as well as a sprightly, newsy paper for the million. Under present auspices it cannot fail to take high rank among the leading journals of the country, and will, no doubt, receive that liberal support its high merits well deserve.

THE BALTIMORE "SUN" has just entered on its forty-fifth year, and as it grows older, increases "its bright and balmy effulgence" which so many thousands have enjoyed since it emitted its first rays.

THE PRINCE GEORGIAN—published in Upper Marlboro, Prince George's county, Maryland. Mr. Turner, who for over a quarter of a century, has done himself great credit as the conductor and editor of this highly popular weekly, retires to enjoy *otium cum dignitate sub tegmine fagi*, and leaves it in the hands of two talented and worthy young men as his successors, to whom we extend a fraternal welcome and best wishes for their future prosperity.

THE BALTIMORE AMERICAN has lately treated itself to a new dress, which really is too fresh and too pretty for one so old—it rather becomes a youthful aspirant for editorial honors. The American continues, as it always has been, one of the leading papers, not only in our State, but in the Union. As a business and newspaper it holds a high rank.

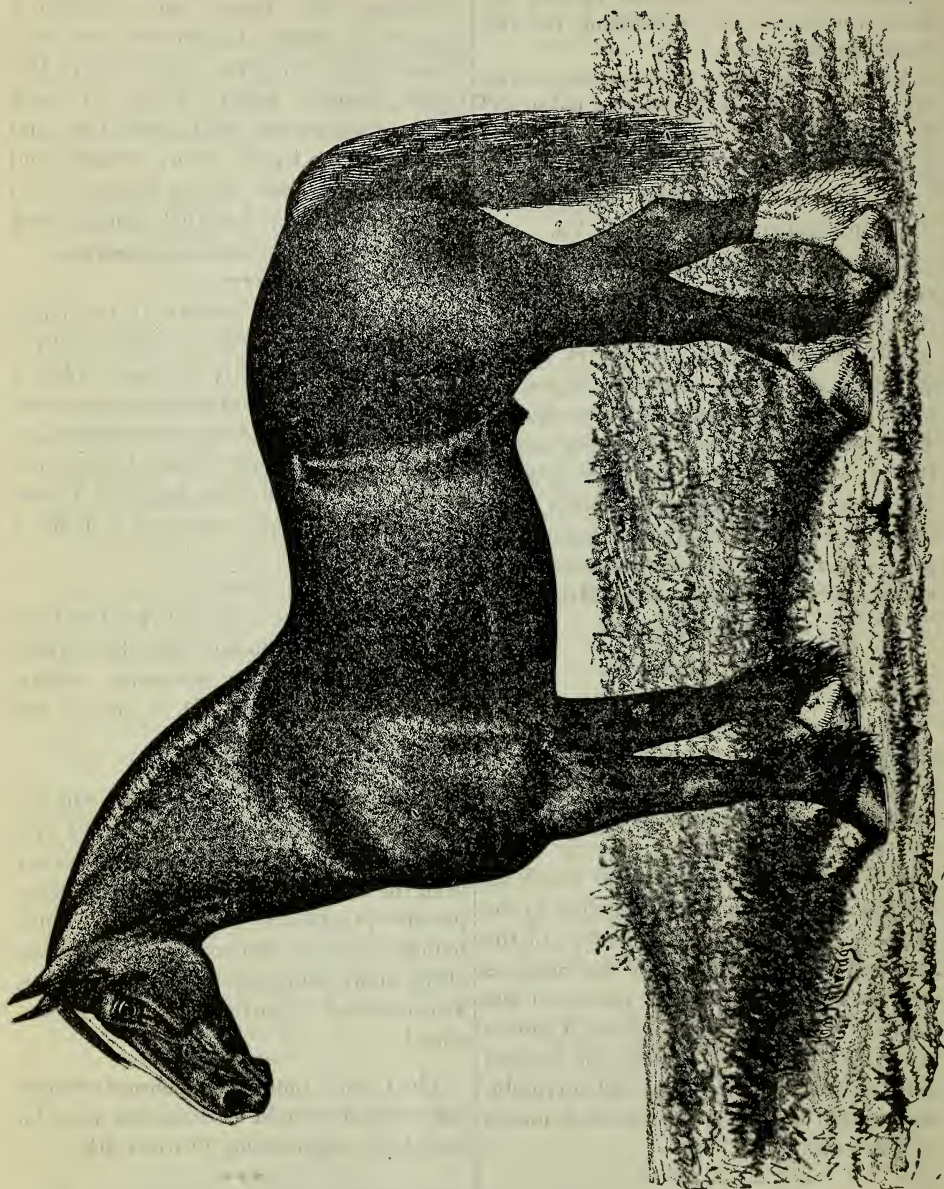
THE FREDERICK EXAMINER has been enlarged to 36 columns, and shows prosperity and continually increasing vitality, as a first class journal. It is one of our most valued exchanges.

HARPER'S MAGAZINE for June—the beginning of the sixty-third volume is a brilliant number. It is not more attractive from the artist's point of view than it is impressive in a literary sense; having contributions from the best writers in every one of the many fields covered by its contents. The editorial departments are well sustained.

The Cecil County Agricultural Society has decided to hold its Fair, this year, for four days, commencing October 4th.

WE call the attention of farmers and others who are in want of thoroughbred stock to the advertisement of Mr. Ficklin, of Va., who imported two stallions and two mares in April, 1866, and was the largest breeder of pure-bred animals but two in the United States up to 1878 when the Percheron Norman Stud Book was published.

## LIVE STOCK REGISTER.



"PERFECTION."

Clydesdale Stallion imported by Smiths & Powell, Sept., 1880. Winner of special prize over all draft horses of all breeds and ages, at New York State Fair, Albany, 1880.



### Demand for Heavy Horses.

The demand for heavy horses this spring is surprising. For years, the demand has been largely in excess of the supply, but this season the inquiry is unexceptionally active; and a man who has a really good, heavy work horse can get his own price for him. A Minnesota buyer, who has usually been able to supply his customers with horses of this class from Southern and South-eastern Iowa, called at our office a few days ago, saying that he could not begin to fill his orders with horses from that region, this season; and he is now in this city, buying upon the market such as are brought here from various parts of the country to sell. Others, like him, have also been driven to seek the great central horse marts, and the result has been a sharp advance in prices, and an active competition among the buyers. The breeders of heavy horses are masters of the situation this season, to a more marked degree than ever before—a circumstance which emphasizes the lesson that the JOURNAL has been for ten years constantly teaching, *that it pays to raise heavy horses.*—*National Live Stock Journal, Chicago.*

For the Maryland Farmer.

### Raising Calves.

It seems strange to us that farmers are not, as a rule, inclined to raise their calves, but depend upon buying fresh cows whenever they wish to increase their herd, instead of raising the best heifer calves themselves. Some of our farmers have their calves served by any bull they can get, no matter how common, merely to get their cows with calf, and then sell the calves to the butcher just as soon as they are fit to be shipped and sold. We know these farmers would find it more profitable to secure the services of an extra fine bull on their cows, even when they would have to pay a few dollars for the service, and save all the best heifer calves as a nucleus of a new and greatly improved herd of dairy animals.

Spring calves are very easily reared, and are not very expensive. Our plan is to take them from the cow, the third or fourth day after calving, and commence to teach them to take warm sweet, milk from a pan or bucket. At first, it is somewhat of

an undertaking to do this, with a strong, large calf, but, by letting them get a little hungry, they are eager to find the way to get something to eat. By letting them take the finger for a couple of days, and then abandoning it, they will learn to drink without much managing; and we generally drive four stakes well down into the ground, just wide enough to hold an ordinary bucket, and set the bucket there, the calf, after getting used to drinking from the bucket, taking the feed herself without any special attention. The calf should be tethered out on the lawn or orchard, where there is plenty of young grass, and she will soon learn to eat it. In about two weeks, skim milk (sweet) can be given, adding a little *scalded* corn meal. If this causes the animal to "scour," brown the meal over a hot fire before scalding it.

Where it can be done, it is a good plan to have a separate enclosure, away from the sight of the cows, for the calves, so they can have their liberty and have an opportunity to get what grass they wish to nibble at. Where the milk cannot be spared, calves can be raised on "hay tea," made by scalding clover hay, and, at first, adding a little milk to it. We have raised some very fine calves this way, though it is more troublesome and risky than when milk is plentifully supplied. E.

WIRE CARRIAGE GATES—have been gotten up by Messrs. Sedgwick Bros. to go with wire fences, which have become so popular. They are very neat, light, durable and suitable for any fence. See advertisement in this number. Sample gates may be seen at the office of the MARYLAND FARMER.

We learn from a catalogue that has just been received from one of our well known citizens of Baltimore, Mr. O. F. Bresee, that he intends to offer for sale at public auction on his well-known Rose Hill Stock Farm in Culpeper county, Va., on June 8th, 1881, a large number of his pure-bred Herd Book Short-horn cattle; he also proposes to add to the sale several high grade cattle and blooded horses. From what we can learn from his catalogue and his past reputation as a breeder of pure blooded stock, we would advise our friends who are interested in or in want of such stock to attend this sale. See his advertisement in this number.

Buckeye Lawn Mower seems to be a very complete machine, thoroughly made of the best material and beautifully finished; it has a combination of improvements. See advertisement.

## LADIES' DEPARTMENT.

### Chats with the Ladies for June.

BY PATUXENT PLANTER.

#### JUNE.

'With tardy feet, as spring recedes  
In all the grace her days have brought her,  
Lo! in her stead, across the meads  
Comes June, the summer's fairest daughter;  
With roses in her tresses caught,  
Her lightsome tread the green sward presses,  
While the balmy winds, with odor fraught,  
Infold her form in their caresses.

"At sight of her, Apollo mends  
His course through blue expanses;  
From closer range on earth descends  
The ardor of his burning glances.  
At earlier hour day's portals ope,  
Beneath the pressure of his fingers,  
And when he nears the western slope,  
In slower march his chariot lingers.

"Now from the over crowded streets,  
Whose torrid heat the city parches,  
The multitudes seek cool retreats  
By breezy shores and woodland arches.  
Winged vessels skim the foamy tide,  
Strong steamers plow the briny billows,  
And Venus walks the shore beside,  
While Cupid lurks beneath the willows."

JUNE—the rose month has come again, scattering, with profuse hands, her roses everywhere. After all, the rose is certainly the Queen of flowers—the wonderful variety of its exquisite colors, the infinite peculiarities in its forms, and shapes of its leaves, and its varied perfume, make it exceptional among its multitude of floral sisters. Who, does not love the rose, whether it be the wild rose of the prairie, the modest Eglantine, or the gorgeous production of art and culture, created by the skill and perseverance of the florist. Rose culture has become in this country, a scientific business, as evidenced by the magnificent establishment of the Dingee & Conard Co., of West Grove, Pa., for the propagation of roses alone, also the select and very choice collection of Ellwanger and Barry, Rochester, N. Y., besides all the hundreds of other florists in the Union. Rose bushes are annually sold by the million, and tens of

millions of roses and rose buds are sold as cut flowers. It is wonderful how the taste of our people has increased for flowers, in the last decade. It is a highly commendable trait, it shows refinement in manners and mental culture. It adds to the beauty and intrinsic value of every homestead. Where you see attention given to the culture of flowers, you are sure to find neatness, order, thrift and content. Flowers are generally a fair index of the peace and happiness of the owners. The presence of flowers seems to indicate the social qualities of the inmates of the dwelling, whether it be a lowly cottage, or towering palace. The stranger feels a kindly welcome as he views these beautiful sentinels about the homestead he approaches.

What pleasurable sensations it causes one who drives or strolls through a rural village, where each householder strives to keep his grounds in nice order, and ornamented with flowers, shrubs, ornamental and shade trees, and bird houses, fountains, flower embowered rustic seats, and vine covered bowers, suggestive of that retirement lovers seek. One of the prettiest places of this sort that I know of, in Maryland, is Catonsville Avenue, a beautiful drive from the Viaduct hotel, on the B. & O. R. R. to Catonsville, Baltimore county, It was my good fortune lately to pass along that route, and was well recompensed. Among the many pretty, small places I saw, was that of Mr. Nickum, on an eminence about half a mile on the avenue from the railroad. I mention this, because I wish to show how easy it is for a man doing business in the city, to have a charming little country place, at no great expense, if he has the taste and energy. I learned that this gentleman is engaged in town all day yet, finds time to beautify his country home and utilize, to great advantage, his little farm. The farm is only three acres, originally very poor and gravelly. He has, literally, made a new soil, but accomplished



it slowly and economically. On this three acres he keeps one horse and two choice, Alderney cows; raises vegetables for his family, plenty of fine fruit of the different sorts to follow in succession; has poultry and pigs of best breeds, and neat houses for the perfect accommodation of all his stock. The grounds about the house are well kept, on which he has a large and choice collection of plants and flowers that would do credit to the most accomplished florist. He makes flowers and their culture, a study and a recreative employment for his leisure hours.

The dwelling is an unpretentious cottage, which, by some forethought and the exercise of a little mechanical skill, combined with taste, is unusually so constructed as to afford coolness and comfort in summer, while it imparts warmth and an air of coziness in winter, having many flowers blooming within its walls at all seasons. It has, also, every convenience and appliance required to expedite and lighten household labor, and to contribute to domestic ease and repose.

How much more enjoyable is life in such a little home, than, as we often find it in a large, costly building, where one may lose himself in winding passages and great halls, and which require a troop of servants to keep clean and neat, or a large outlay to make warm in winter; surrounded, perhaps, by only a clump of ugly trees, with no well kept lawn, or out-door ornamentation, nothing to gladden the eye and cheer the senses. What a mistake capital often makes in building up a great monument of folly, instead of creating a love of a cottage, with surroundings that excite the thoughts of a pleasant retreat and delicious repose, after the worrying excitement of a busy day in the turmoils of the crowded emporium.

With proper reflection, good sense and taste, what an amount of convenience comfort and pleasure can be concentrated, at small expense, within a very little space. Young people, commencing life, should think of this, and ponder well before building their nest for life, wherein to raise their brood,

For the Maryland Farmer.

### How a Woman Farms.

The editor of this most ably conducted journal has courteously invited the ladies to chat. In availing myself of the invitation, I shall talk about farming, for I belong to that much enduring class of people, called farmers.

By the brain and hand work of the farmer the world is kept. Pastoral life is the theme of the poet and the subject of the painter. Yet, there is one thing more to make the farming profession more desirable. The manufacturer and merchant name the price of their goods. The lawyer, doctor and laborer name the price for their services. When the farmer takes his produce to market the price is ready fixed, he must take what the buyers offer him, even if it ruins him. I am not scolding at other trades, let them have their rights. Farming requires an education as much so as any of the (so called) learned professions, and I contend it requires as much thought, diligence and executive ability, and I think the farmer should have more choice in the price of his sales.

But I wander from my subject, "How a Woman Farms." I follow the usual routine of cropping. First, corn; then, oats, breaking up oat stubble during the summer and seeding to wheat and grass. I believe in keeping land in grass as long as it will profitably last, and I believe in top dressing grass with well decomposed barnyard manure. It causes a rich growth, whether I want it cut for hay, grazed by stock, or turned under by the plow, it profits. I should as soon think of throwing my grain in the river as to allow any fertilizing matter to be wasted. It is all shoveled into the compost heaps and carted out twice a year, and either spread on the wheat or grass. I sow commercial fertilizers on wheat, last fall, I sowed seven tons of three different brands, in one field. I sowed ammoniated and unammoniated, as yet, I can discover no difference in the appearance of the wheat. I am watching anxiously, for old farmers say they can't raise wheat crops unless the fertilizer smells bad. Hitherto, I have had the best crops of wheat when I used More's fertilizer, manufactured in Georgetown, D. C.

I have good gardens and well cared for orchards. I shall not have any peaches

this year, not even peach bloom, and I feel sad when I think of my empty cans. I think I shall have plenty apples. I have a dairy of eight cows, and was delighted when Congress made an appropriation for public works, the laborer will be employed, and of all people, the laborer likes to eat good butter and will pay for it if he has the money. And I was pleased too that our capital city was to continue improving. I do not think too much can be done for the seat of the national government, Southerner and unreconstructed rebel that I am.

Last fall, I managed to get my work over before the snow came deep. When I began to see the flakes fall, I thought I could no longer stand by and see the corn cribbed. I began to throw corn in the hampers and found I could sort corn and fill my hamper almost as quick as the best workers, but oh! the men worked.

I raise sheep, cattle and horses sufficient to keep up stock and a few to sell. I have a nice, lady's riding mare now for sale. I have trained and gated her myself, she is four years old and as fleet as a doe, and gentle and affectionate—a perfect horse.

My chat is getting too long, one cannot give on paper all the details of farming—how the marshes are drained, the little washes on land filled, the fields kept free from briars, (summer plowing is best for undesirable growth) and the fences in order and the best methods of plowing land. If this chat should find favor, I shall tell how I became a farmer, and about my swine raising.

LADY FARMER.

Fairfax Co., Va.

The house of THOS. NORRIS & SON, who have been so long and favorably known in this community, show, by their advertisement in this number, that they are determined to keep up with the times. They have a full line of harvest tools of the latest improvements, amongst which are Walter A. Woods' harvesting machines, of which 354,915 have been sold in twenty-seven years, in the various parts of the world. Call and see them

We would call especial attention of all of our subscribers and others interested in, or in want of Pure Blooded Stock, to the sale of Mr. Wm. W. Bentley, of Weldon, Virginia, which takes place June 15th, 1881. From all we learn of Mr. Bentley's fine stock, they are very superior and have few equals to be found in this section of the country. We would advise all who are interested to attend this sale and see for themselves. For particulars refer to his advertisement in this number.

## ENSILAGE.

The system of preserving green forage in silos is becoming yearly more popular and gaining warm adherents rapidly. Almost every man who has tried it upon a small or large scale is delighted with it.

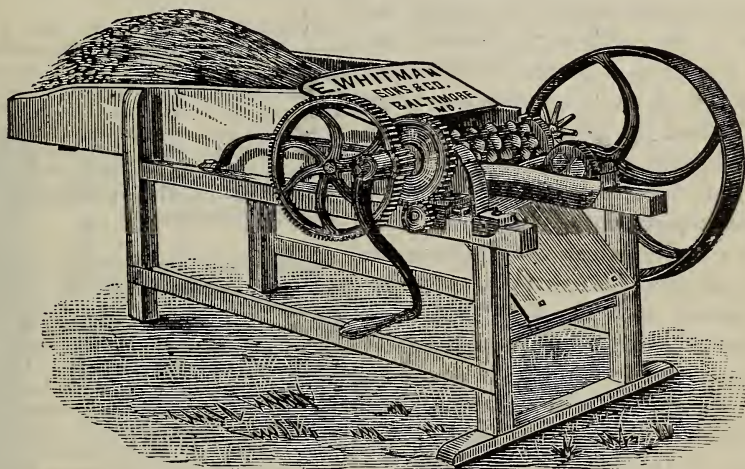
We take some pride in the fact that years ago, the Maryland Farmer gave a translation, from a French journal, of a letter, describing the then called new method of preserving green forage by means of silos, as having been introduced into France from Germany, and improved upon by Mr. Goffard and others. Soon after our mention of the matter, Mr. Morris, of Maryland put the plan into practice, and then Mr. Brown published his book, which brought the matter prominently before the public. Since then great numbers have tried it and many have made improvements, while some, like Dr. Bailey and the Messrs. Whitman and Burrell, Stevens and others, have built very extensive and costly silos. It has but few enemies and many friends, and we have yet to hear of the first man who has tried the plan, that has failed so much as not to be willing to continue the system. Hence, we conclude that ensilage has become a fixture in our agriculture for the future. We have not the space now to enter into the subject as fully as we would desire, but we shall give several extracts from different journals upon the subject, and to be impartial will give, hereafter, any views we may find in our exchanges, that may be unfavorable to it.

Our object, in the present writing, is to urge upon our farmers, and especially those who are engaged in the dairy business to try it, not on a large or expensive scale, but begin with a cheap, small silo, and from it they can draw correct conclusions, whether it will pay them to build large and more expensive silos. Of course, the proportion of loss and trouble is much greater in a small, temporary silo than in one built



with great care and expense. But, we believe, from all we have heard and read on the subject, that it will well pay the small farmer to ensilage some pea vines, clover, rye, etc., and also some green corn fodder, in silos built with boards or simply in deep pits or ditches, where the land is a hard, retentive clay. The large boxes or pits may or may not be coated with cement or tarred paper. Such an experiment so cheaply made, may be easily tried and the loss, if loss there should be, would be a trifle. If successful, it might lead to larger and better silos, that would, eventually, bring a fortune and revolutionize the sys-

one-fourth in depth. In winter he fed it to his cow and horse, with a little mill feed, about as much as he would give at a feed of dry hay or corn fodder. They both eat it greedily and both did remarkably well on it. He had  $\frac{3}{4}$  of an acre in corn. Is certain that if he had fed the same after being cured in the old way, it would not have lasted his cow and horse one-third of the time that it did as ensilage. His loss from the outsides of the silo was little or nothing. He is, hereafter, an ensilage man, and agrees with us that small farmers need go to no great expense to prepare a winter's supply of ensilage for a few cattle,



E. WHITMAN SONS & CO.'S BALTIMORE ENSILAGE CUTTER.

tem of curing hay and drying provender for winter use. Mr. John B. Cary, of Baltimore, called on us lately and said he kept one cow and a horse, and having a cellar to his stable, last year, petitioned off a small part of the cellar with common plank for a silo, thus having a rough stone wall on three sides and plank laid edge to edge, in the rough, for the fourth side. It was quite small in dimensions. He cut up green corn with an ordinary hay cutting machine, in pieces 1 to 1 $\frac{1}{2}$  inches long, and when this silo was full, he weighted it heavily with stone, first covering the cut corn fodder with plank. It sunk down to about

hogs, sheep and horses.

Many have been deterred from trying ensilage, because they imagined that great expense was to be incurred in making silos, and interested manufacturers have encouraged the idea, that only cutting machines made for the purpose, could be properly used for preparing the green forage for the silo, and some have made trifling alterations in the large hay cutting machines and dubbed them silo or ensilage cutting machines and added largely to the former price of the same when sold as simple hay cutters. Any good straw or hay cutter that is fixed to cut hay or straw one or two

inches short will answer the purpose. Of course, these hay cutters should be of large size to run by horse power, so as to facilitate the work of cutting the ensilage, as it is important that the green grass or corn fodder should be cut up and put in the silo with the least possible delay after it is cut down in the field. It should be taken immediately from the field as soon as mown or cut and run through the straw or hay cutter and placed in the silo. The best ensilage cutter we have any knowledge of is manufactured by E. Whitman, Sons & Co., called the Baltimore Ensilage Cutter.

Among the advantages of ensilage we may safely say:—All stock become very fond of it, as it is a perfect substitute for green grass. It has been proven to be an admirable food for milch cows, tending to keep up the flow of milk. It keeps stock in as good, if not better order than dry food, and requires not as much grain to be fed with it as dry fodder does to keep the stock in prime order. It goes much farther in feeding than dry feed—that is, an acre of forage, ensilaged, will furnish a great deal more winter food than the same acre would if the grass or green crop had been dried into hay or cured provender. By ensilaging all the green crops, double the stock can be kept or fattened on the same farm. This is a great consideration if it prove to be practically true, and we have no doubt of it. And lastly, it certainly is the safest and easiest way to preserve, for winter, clover, pea vines, or other such succulent crops as are hard to dry, and often are entirely lost or greatly damaged by rain, at the time of curing, and which often become so mouldy and funky in the stack or mow as to be unfit for food for stock.

It seems to us that ensilage, if properly made, is all the more wholesome for the slight fermentation it undergoes, and is better therefore and just as succulent and agreeable to the stock, in winter, as grass is in summer. It, in a word, supplies our

domestic animals with summer diet. What canning and evaporating vegetables and fruits have done for man, ensilage will do for the beasts. That, of itself, will be a grand achievement, let the wise-acres say what they will about the albuminoids, &c., and amount of water, &c., or the poison in the tin cans, and the incipient decomposition and all such stuff to appal the foolish and aid some rival interest by the balderdash of great learning—oftener the wicked sophistry of charlatans.

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WE RECOMMEND all those who are suffering from disordered bowels to use CUBAN MOSS, it has never failed, is pleasant and perfectly safe.—See advertisement.

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LEWIS' PATENT POTATO BUG EXTERMINATOR.—The manufacturer represents that one pound of Paris Green, with the syringe, is sufficient for three acres of potatoes, and that a man or boy can go over from 3 to 5 acres in a day. With so trifling an expense as this, we hope our farmers will not allow the potato bug to destroy the crop this year. They are for sale at this office, by mail, at \$1.25, postpaid. See the advertisement in this number.

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ROCK'S IMPROVED TETHER or Picket Stake and Combination Swivel, for tethering cows, horses or any other animal. With the use of this Swivel Stake, all the waste grass on farm or lawn can be utilized, with perfect safety to trees or shrubbery. No fences needed. Cows pastured alongside of growing grain can be easily changed from one place to another, cannot wind up or foul the chain when fastened to this Swivel Stake. Price of complete tether, including 25 feet chain; neck strap and two lock snaps, \$6.00. For sale at this office.

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AN OLD LADY writes us; "I am 65 years old and was feeble and nervous all the time, when I bought a bottle of Parkers's Ginger Tonic. I have used a little more than one bottle and feel as well as at 30, and am sure that hundreds need just such medicine." See advertisement.

MANY LOSE Their Beauty from the hair falling or fading. Parker's Hair Balsam supplies necessary nourishment, prevents falling and greyness and is an excellent dressing.

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SILOS and ENSILAGE, seem to be creating great excitement amongst the enterprising Farmers of the County, and if all that is claimed for it be true it will produce a revolution in stock feeding. One of the first and most important things connected with ensilage, after building the silo, is a good cutting machine, and the Messrs. E. Whitman, Sons & Co. have attended to this part of the enterprise, and provided what seems to be just the right thing. See their advertisement on page 44 in this number.